



# Singapore

LEVEL

# 2

Appropriate for students in Grade 3

A&B



**Boost Problem Solving and  
Critical Thinking for Math Mastery**

**Unit 8: LENGTH**



shown above?

- Creates a deep understanding of each key math concept
- Introduction explaining the Singapore Math method
- Direct complement to the current textbooks used in Singapore
- Step-by-step solutions in the answer key

**DIVIDING  
ID 10**



# Singapore IMATH

LEVEL  
2  
A&B

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# INTRODUCTION TO SINGAPORE MATH

Welcome to Singapore Math! The math curriculum in Singapore has been recognized worldwide for its excellence in producing students highly skilled in mathematics. Students in Singapore have ranked at the top in the world in mathematics on the *Trends in International Mathematics and Science Study* (TIMSS) in 1993, 1995, 2003, and 2008. Because of this, Singapore Math has gained in interest and popularity in the United States.

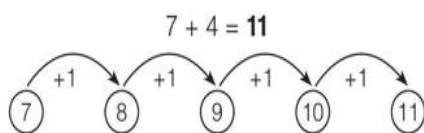
Singapore Math curriculum aims to help students develop the necessary math concepts and process skills for everyday life and to provide students with the ability to formulate, apply, and solve problems. Mathematics in the Singapore Primary (Elementary) Curriculum cover fewer topics but in greater depth. Key math concepts are introduced and built on to reinforce various mathematical ideas and thinking. Students in Singapore are typically one grade level ahead of students in the United States.

The following pages provide examples of the various math problem types and skill sets taught in Singapore.

At an elementary level, some simple mathematical skills can help students understand mathematical principles. These skills are the counting-on, counting-back, and crossing-out methods. Note that these methods are most useful when the numbers are small.

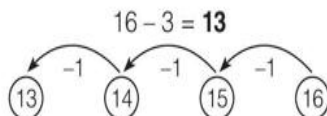
## 1. The Counting-On Method

Used for addition of two numbers. Count on in 1s with the help of a picture or number line.



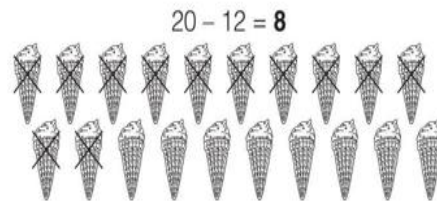
## 2. The Counting-Back Method

Used for subtraction of two numbers. Count back in 1s with the help of a picture or number line.

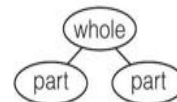


## 3. The Crossing-Out Method

Used for subtraction of two numbers. Cross out the number of items to be taken away. Count the remaining ones to find the answer.



A **number bond** shows the relationship in a simple addition or subtraction problem. The number bond is based on the concept "part-part-whole." This concept is useful in teaching simple addition and subtraction to young children.

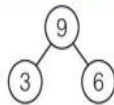


To find a whole, students must add the two parts.

To find a part, students must subtract the other part from the whole.

The different types of number bonds are illustrated on the next page.

### 1. Number Bond (single digits)

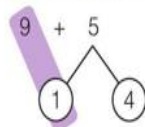


$$3 \text{ (part)} + 6 \text{ (part)} = 9 \text{ (whole)}$$

$$9 \text{ (whole)} - 3 \text{ (part)} = 6 \text{ (part)}$$

$$9 \text{ (whole)} - 6 \text{ (part)} = 3 \text{ (part)}$$

### 2. Addition Number Bond (single digits)



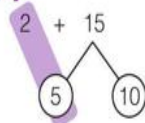
$$= 9 + 1 + 4$$

$$= 10 + 4$$

$$= 14$$

Make a ten first.

### 3. Addition Number Bond (double and single digits)



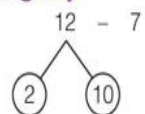
$$= 2 + 5 + 10$$

$$= 7 + 10$$

$$= 17$$

Regroup 15 into 5 and 10.

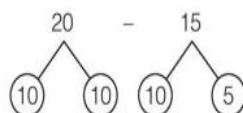
### 4. Subtraction Number Bond (double and single digits)



$$10 - 7 = 3$$

$$3 + 2 = 5$$

### 5. Subtraction Number Bond (double digits)



$$10 - 5 = 5$$

$$10 - 10 = 0$$

$$5 + 0 = 5$$

Students should understand that multiplication is repeated addition and that division is the grouping of all items into equal sets.

### 1. Repeated Addition (Multiplication)

Mackenzie eats 2 rolls a day. How many rolls does she eat in 5 days?

$$2 + 2 + 2 + 2 + 2 = 10$$

$$5 \times 2 = 10$$

She eats **10** rolls in 5 days.

### 2. The Grouping Method (Division)

Mrs. Lee makes 14 sandwiches. She gives all the sandwiches equally to 7 friends. How many sandwiches does each friend receive?



$$14 \div 7 = 2$$

Each friend receives **2** sandwiches.

One of the basic but essential math skills students should acquire is to perform the 4 operations of whole numbers and fractions. Each of these methods is illustrated below.

### 1. The Adding-Without-Regrouping Method

|     |   |   |             |
|-----|---|---|-------------|
| H   | T | O | O: Ones     |
| 3   | 2 | 1 | T: Tens     |
| + 5 | 6 | 8 | H: Hundreds |
| 8   | 8 | 9 |             |

Since no regrouping is required, add the digits in each place value accordingly.

### 2. The Adding-by-Regrouping Method

|     |   |   |             |
|-----|---|---|-------------|
| H   | T | O | O: Ones     |
| 14  | 9 | 2 | T: Tens     |
| + 1 | 5 | 3 | H: Hundreds |
| 6   | 4 | 5 |             |

In this example, regroup 14 tens into 1 hundred 4 tens.

### 3. The Adding-by-Regrouping-Twice Method

|   |    |    |   |             |
|---|----|----|---|-------------|
|   | H  | T  | O |             |
|   | '2 | '8 | 6 | O: Ones     |
| + | 3  | 6  | 5 | T: Tens     |
|   | 6  | 5  | 1 | H: Hundreds |

Regroup twice in this example.  
First, regroup 11 ones into 1 ten 1 one.  
Second, regroup 15 tens into 1 hundred 5 tens.

### 4. The Subtracting-Without-Regrouping Method

|   |   |   |   |             |
|---|---|---|---|-------------|
|   | H | T | O |             |
|   | 7 | 3 | 9 | O: Ones     |
| - | 3 | 2 | 5 | T: Tens     |
|   | 4 | 1 | 4 | H: Hundreds |

Since no regrouping is required, subtract the digits in each place value accordingly.

### 5. The Subtracting-by-Regrouping Method

|   |   |                |                 |             |
|---|---|----------------|-----------------|-------------|
|   | H | T              | O               |             |
|   | 5 | <sup>7</sup> 8 | <sup>11</sup> 1 | O: Ones     |
| - | 2 | 4              | 7               | T: Tens     |
|   | 3 | 3              | 4               | H: Hundreds |

In this example, students cannot subtract 7 ones from 1 one. So, regroup the tens and ones. Regroup 8 tens 1 one into 7 tens 11 ones.

### 6. The Subtracting-by-Regrouping-Twice Method

|   |                |                |                 |             |
|---|----------------|----------------|-----------------|-------------|
|   | H              | T              | O               |             |
|   | <sup>7</sup> 8 | <sup>9</sup> 0 | <sup>10</sup> 0 | O: Ones     |
| - | 5              | 9              | 3               | T: Tens     |
|   | 2              | 0              | 7               | H: Hundreds |

In this example, students cannot subtract 3 ones from 0 ones and 9 tens from 0 tens. So, regroup the hundreds, tens, and ones. Regroup 8 hundreds into 7 hundreds 9 tens 10 ones.

### 7. The Multiplying-Without-Regrouping Method

|   |   |   |         |
|---|---|---|---------|
|   | T | O |         |
|   | 2 | 4 | O: Ones |
| x |   | 2 | T: Tens |
|   | 4 | 8 |         |

Since no regrouping is required, multiply the digit in each place value by the multiplier accordingly.

### 8. The Multiplying-With-Regrouping Method

|   |    |    |   |             |
|---|----|----|---|-------------|
|   | H  | T  | O |             |
|   | '3 | '4 | 9 | O: Ones     |
| x |    |    | 3 | T: Tens     |
|   | 1  | 0  | 7 | H: Hundreds |

In this example, regroup 27 ones into 2 tens 7 ones, and 14 tens into 1 hundred 4 tens.

### 9. The Dividing-Without-Regrouping Method

|   |   |   |   |
|---|---|---|---|
|   | 2 | 4 | 1 |
| 2 | 4 | 8 | 2 |
| - | 4 |   |   |
|   |   | 8 |   |
| - |   | 8 |   |
|   |   |   | 2 |
| - |   |   | 2 |
|   |   |   | 0 |

Since no regrouping is required, divide the digit in each place value by the divisor accordingly.

### 10. The Dividing-With-Regrouping Method

|   |   |   |   |
|---|---|---|---|
|   | 1 | 6 | 6 |
| 5 | 8 | 3 | 0 |
| - | 5 |   |   |
|   |   | 3 | 3 |
| - |   | 3 | 0 |
|   |   |   | 3 |
| - |   |   | 3 |
|   |   |   | 0 |

In this example, regroup 3 hundreds into 30 tens and add 3 tens to make 33 tens. Regroup 3 tens into 30 ones.

### 11. The Addition-of-Fractions Method

$$\frac{1}{6} \times \frac{2}{2} + \frac{1}{4} \times \frac{3}{3} = \frac{2}{12} + \frac{3}{12} = \frac{5}{12}$$

Always remember to make the denominators common before adding the fractions.

### 12. The Subtraction-of-Fractions Method

$$\frac{1}{2} \times \frac{5}{5} - \frac{1}{5} \times \frac{2}{2} = \frac{5}{10} - \frac{2}{10} = \frac{3}{10}$$

Always remember to make the denominators common before subtracting the fractions.

### 13. The Multiplication-of-Fractions Method

$$\frac{1}{5} \times \frac{1}{3} = \frac{1}{15}$$

When the numerator and the denominator have a common multiple, reduce them to their lowest fractions.

### 14. The Division-of-Fractions Method

$$\frac{7}{9} \div \frac{1}{6} = \frac{7}{9} \times \frac{6}{1} = \frac{14}{3} = 4\frac{2}{3}$$

When dividing fractions, first change the division sign ( $\div$ ) to the multiplication sign ( $\times$ ). Then, switch the numerator and denominator of the fraction on the right hand side. Multiply the fractions in the usual way.

**Model drawing** is an effective strategy used to solve math word problems. It is a visual representation of the information in word problems using bar units. By drawing the models, students will know of the variables given in the problem, the variables to find, and even the methods used to solve the problem.

Drawing models is also a versatile strategy. It can be applied to simple word problems involving addition, subtraction, multiplication,

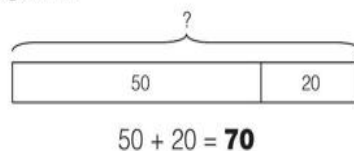
and division. It can also be applied to word problems related to fractions, decimals, percentage, and ratio.

The use of models also trains students to think in an algebraic manner, which uses symbols for representation.

The different types of bar models used to solve word problems are illustrated below.

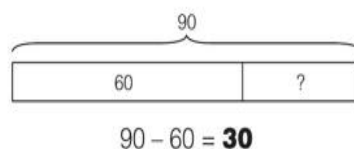
#### 1. The model that involves addition

Melissa has 50 blue beads and 20 red beads. How many beads does she have altogether?



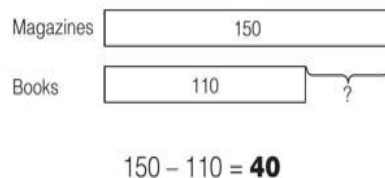
#### 2. The model that involves subtraction

Ben and Andy have 90 toy cars. Andy has 60 toy cars. How many toy cars does Ben have?



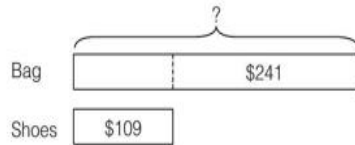
#### 3. The model that involves comparison

Mr. Simons has 150 magazines and 110 books in his study. How many more magazines than books does he have?



#### 4. The model that involves two items with a difference

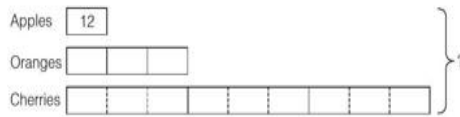
A pair of shoes costs \$109. A leather bag costs \$241 more than the pair of shoes. How much is the leather bag?



$$\$109 + \$241 = \mathbf{\$350}$$

#### 5. The model that involves multiples

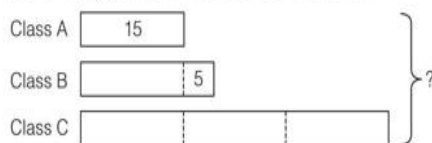
Mrs. Drew buys 12 apples. She buys 3 times as many oranges as apples. She also buys 3 times as many cherries as oranges. How many pieces of fruit does she buy altogether?



$$13 \times 12 = \mathbf{156}$$

#### 6. The model that involves multiples and difference

There are 15 students in Class A. There are 5 more students in Class B than in Class A. There are 3 times as many students in Class C than in Class A. How many students are there altogether in the three classes?

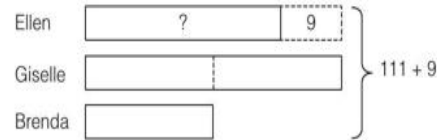


$$(5 \times 15) + 5 = \mathbf{80}$$

#### 7. The model that involves creating a whole

Ellen, Giselle, and Brenda bake 111 muffins. Giselle bakes twice as many muffins as

Brenda. Ellen bakes 9 fewer muffins than Giselle. How many muffins does Ellen bake?

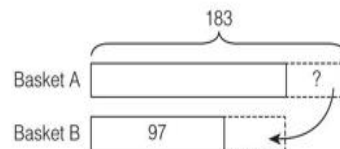


$$(111 + 9) \div 5 = 24$$

$$(2 \times 24) - 9 = \mathbf{39}$$

#### 8. The model that involves sharing

There are 183 tennis balls in Basket A and 97 tennis balls in Basket B. How many tennis balls must be transferred from Basket A to Basket B so that both baskets contain the same number of tennis balls?

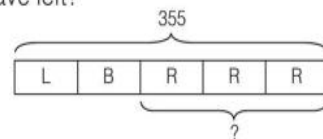


$$183 - 97 = 86$$

$$86 \div 2 = \mathbf{43}$$

#### 9. The model that involves fractions

George had 355 marbles. He lost  $\frac{1}{5}$  of the marbles and gave  $\frac{1}{4}$  of the remaining marbles to his brother. How many marbles did he have left?



L: Lost

B: Brother

R: Remaining

5 parts  $\rightarrow$  355 marbles

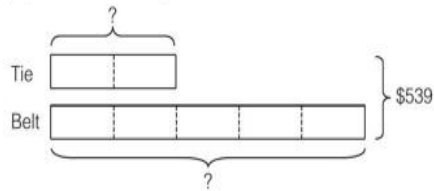
1 part  $\rightarrow 355 \div 5 = 71$  marbles

3 parts  $\rightarrow 3 \times 71 = \mathbf{213}$  marbles

## 10. The model that involves ratio

Aaron buys a tie and a belt. The prices of the tie and belt are in the ratio 2 : 5. If both items cost \$539,

- what is the price of the tie?
- what is the price of the belt?



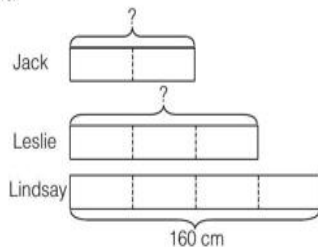
$$\$539 \div 7 = \$77$$

$$\text{Tie (2 units)} \rightarrow 2 \times \$77 = \text{\textbf{\$154}}$$

$$\text{Belt (5 units)} \rightarrow 5 \times \$77 = \text{\textbf{\$385}}$$

## 11. The model that involves comparison of fractions

Jack's height is  $\frac{2}{3}$  of Leslie's height. Leslie's height is  $\frac{3}{4}$  of Lindsay's height. If Lindsay is 160 cm tall, find Jack's height and Leslie's height.



$$1 \text{ unit} \rightarrow 160 \div 4 = 40 \text{ cm}$$

$$\text{Leslie's height (3 units)} \rightarrow 3 \times 40 = \text{\textbf{120 cm}}$$

$$\text{Jack's height (2 units)} \rightarrow 2 \times 40 = \text{\textbf{80 cm}}$$

Thinking skills and strategies are important in mathematical problem solving. These skills are applied when students think through the math problems to solve them. The following are some commonly used thinking skills and strategies applied in mathematical problem solving.

## 1. Comparing

*Comparing* is a form of thinking skill that students can apply to identify similarities and differences.

When comparing numbers, look carefully at each digit before deciding if a number is greater or less than the other. Students might also use a number line for comparison when there are more numbers.

Example:



**3 is greater than 2 but smaller than 7.**

## 2. Sequencing

A sequence shows the order of a series of numbers. *Sequencing* is a form of thinking skill that requires students to place numbers in a particular order. There are many terms in a sequence. The terms refer to the numbers in a sequence.

To place numbers in a correct order, students must first find a rule that generates the sequence. In a simple math sequence, students can either add or subtract to find the unknown terms in the sequence.

Example: Find the 7th term in the sequence below.

|      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|
| 1,   | 4,   | 7,   | 10,  | 13,  | 16   | ?    |
| 1st  | 2nd  | 3rd  | 4th  | 5th  | 6th  | 7th  |
| term | term | term | term | term | term | term |

Step 1: This sequence is in an increasing order.

Step 2:  $4 - 1 = 3$        $7 - 4 = 3$   
The difference between two consecutive terms is 3.

Step 3:  $16 + 3 = 19$   
The 7th term is **19**.

### 3. Visualization

*Visualization* is a problem solving strategy that can help students visualize a problem through the use of physical objects. Students will play a more active role in solving the problem by manipulating these objects.

The main advantage of using this strategy is the mobility of information in the process of solving the problem. When students make a wrong step in the process, they can retrace the step without erasing or canceling it.

The other advantage is that this strategy helps develop a better understanding of the problem or solution through visual objects or images. In this way, students will be better able to remember how to solve these types of problems.

Some of the commonly used objects for this strategy are toothpicks, straws, cards, strings, water, sand, pencils, paper, and dice.

### 4. Look for a Pattern

This strategy requires the use of observational and analytical skills. Students have to observe the given data to find a pattern in order to solve the problem. Math word problems that involve the use of this strategy usually have repeated numbers or patterns.

Example: Find the sum of all the numbers from 1 to 100.

Step 1: Simplify the problem.

Find the sum of 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

Step 2: Look for a pattern.

$$1 + 10 = 11 \quad 2 + 9 = 11$$

$$3 + 8 = 11 \quad 4 + 7 = 11$$

$$5 + 6 = 11$$

Step 3: Describe the pattern.

When finding the sum of 1 to 10,

add the first and last numbers to get a result of 11. Then, add the second and second last numbers to get the same result. The pattern continues until all the numbers from 1 to 10 are added. There will be 5 pairs of such results. Since each addition equals 11, the answer is then  $5 \times 11 = 55$ .

Step 4: Use the pattern to find the answer.

Since there are 5 pairs in the sum of 1 to 10, there should be  $(10 \times 5 = 50)$  pairs in the sum of 1 to 100.

Note that the addition for each pair is not equal to 11 now. The addition for each pair is now  $(1 + 100 = 101)$ .

$$50 \times 101 = 5050$$

The sum of all the numbers from 1 to 100 is **5,050**.

### 5. Working Backward

The strategy of working backward applies only to a specific type of math word problem. These word problems state the end result, and students are required to find the total number. In order to solve these word problems, students have to work backward by thinking through the correct sequence of events. The strategy of working backward allows students to use their logical reasoning and sequencing to find the answers.

Example: Sarah has a piece of ribbon.

She cuts the ribbon into 4 equal parts. Each part is then cut into 3 smaller equal parts. If the length of each small part is 35 cm, how long is the piece of ribbon?

$$3 \times 35 = 105 \text{ cm}$$

$$4 \times 105 = 420 \text{ cm}$$

The piece of ribbon is **420 cm**.

## 6. The Before-After Concept

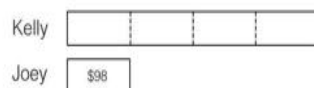
The *Before-After* concept lists all the relevant data before and after an event. Students can then compare the differences and eventually solve the problems. Usually, the Before-After concept and the mathematical model go hand in hand to solve math word problems. Note that the Before-After concept can be applied only to a certain type of math word problem, which trains students to think sequentially.

Example: Kelly has 4 times as much money as Joey. After Kelly uses some money to buy a tennis racquet, and Joey uses \$30 to buy a pair of pants, Kelly has twice as much money as Joey. If Joey has \$98 in the beginning,

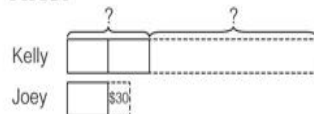
(a) how much money does Kelly have in the end?

(b) how much money does Kelly spend on the tennis racquet?

### Before



### After



(a)  $\$98 - \$30 = \$68$   
 $2 \times \$68 = \$136$   
 Kelly has **\$136** in the end.

(b)  $4 \times \$98 = \$392$   
 $\$392 - \$136 = \$256$   
 Kelly spends **\$256** on the tennis racquet.

## 7. Making Supposition

*Making supposition* is commonly known as

"making an assumption." Students can use this strategy to solve certain types of math word problems. Making assumptions will eliminate some possibilities and simplifies the word problems by providing a boundary of values to work within.

Example: Mrs. Jackson bought 100 pieces of candy for all the students in her class. How many pieces of candy would each student receive if there were 25 students in her class?

In the above word problem, assume that each student received the same number of pieces. This eliminates the possibilities that some students would receive more than others due to good behavior, better results, or any other reason.

## 8. Representation of Problem

In problem solving, students often use representations in the solutions to show their understanding of the problems. Using representations also allow students to understand the mathematical concepts and relationships as well as to manipulate the information presented in the problems. Examples of representations are diagrams and lists or tables.

Diagrams allow students to consolidate or organize the information given in the problems. By drawing a diagram, students can see the problem clearly and solve it effectively.

A list or table can help students organize information that is useful for analysis. After analyzing, students can then see a pattern, which can be used to solve the problem.

## 9. Guess and Check

One of the most important and effective problem-solving techniques is *Guess and Check*. It is also known as *Trial and Error*. As the name suggests, students have to guess the answer to a problem and check if that guess is correct. If the guess is wrong, students will make another guess. This will continue until the guess is correct.

It is beneficial to keep a record of all the guesses and checks in a table. In addition, a *Comments* column can be included. This will enable students to analyze their guess (if it is too high or too low) and improve on the next guess. Be careful; this problem-solving technique can be tiresome without systematic or logical guesses.

Example: Jessica had 15 coins. Some of them were 10-cent coins and the rest were 5-cent coins. The total amount added up to \$1.25. How many coins of each kind were there?

Use the guess-and-check method.

| Number of 10¢ Coins | Value                  | Number of 5¢ Coins | Value               | Total Number of Coins | Total Value                  |
|---------------------|------------------------|--------------------|---------------------|-----------------------|------------------------------|
| 7                   | $7 \times 10¢ = 70¢$   | 8                  | $8 \times 5¢ = 40¢$ | $7 + 8 = 15$          | $70¢ + 40¢ = 110¢ = \$1.10$  |
| 8                   | $8 \times 10¢ = 80¢$   | 7                  | $7 \times 5¢ = 35¢$ | $8 + 7 = 15$          | $80¢ + 35¢ = 115¢ = \$1.15$  |
| 10                  | $10 \times 10¢ = 100¢$ | 5                  | $5 \times 5¢ = 25¢$ | $10 + 5 = 15$         | $100¢ + 25¢ = 125¢ = \$1.25$ |

There were **ten** 10-cent coins and **five** 5-cent coins.

## 10. Restate the Problem

When solving challenging math problems, conventional methods may not be workable. Instead, restating the problem will enable students to see some challenging problems in a different light so that they can better understand them.

The strategy of restating the problem is to “say” the problem in a different and clearer way. However, students have to ensure that the main idea of the problem is not altered.

How do students restate a math problem?

First, read and understand the problem. Gather the given facts and unknowns. Note any condition(s) that have to be satisfied.

Next, restate the problem. Imagine narrating this problem to a friend. Present the given facts, unknown(s), and condition(s). Students may want to write the “revised” problem. Once the “revised” problem is analyzed, students should be able to think of an appropriate strategy to solve it.

## 11. Simplify the Problem

One of the commonly used strategies in mathematical problem solving is simplification of the problem. When a problem is simplified, it can be “broken down” into two or more smaller parts. Students can then solve the parts systematically to get to the final answer.

## 2A LEARNING OUTCOMES

### Unit 1 Numbers 1-1,000

Students should be able to

- ✱ recognize and write numbers up to 1,000 in numerals and words.
- ✱ identify the place value of numbers up to 1,000.
- ✱ compare and arrange numbers up to 1,000.
- ✱ complete number patterns.

### Unit 2 Adding and Subtracting Numbers 1-1,000

Students should be able to

- ✱ add and subtract numbers up to 1,000 by regrouping ones, tens, or hundreds.
- ✱ solve 1-step story problems related to addition and subtraction.

### Review 1

This review tests students' understanding of Units 1 & 2.

### Unit 3 Fun With Models (Adding and Subtracting)

Students should be able to

- ✱ draw models involving addition and subtraction of 2 numbers.
- ✱ draw models involving addition of 3 numbers.

### Unit 4 Multiplying and Dividing

Students should be able to

- ✱ multiply numbers by 2, 3, 4, 5, and 10.
- ✱ divide numbers by 2, 3, 4, 5, and 10.

### Review 2

This review tests students' understanding of Units 3 & 4.

### Unit 5 Multiplying and Dividing Numbers by 2 and 3

Students should be able to

- ✱ multiply and divide numbers by 2 and 3.

### Unit 6 Multiplying and Dividing Numbers by 4, 5, and 10

Students should be able to

- ✱ multiply numbers by 4, 5, and 10.
- ✱ divide numbers by 4, 5, and 10.
- ✱ solve 1-step multiplication and division story problems.

### Unit 7 Fun With Models (Multiplying and Dividing)

Students should be able to

- ✱ draw models involving multiplication and division.

### Review 3

This review tests students' understanding of Units 5, 6, & 7.

### Unit 8 Length

Students should be able to

- ✱ measure objects in meters, centimeters, inches, feet, and yards.
- ✱ compare items of different lengths.
- ✱ add, subtract, multiply, and divide different lengths.
- ✱ solve 1-step story problems related to length.

### Unit 9 Mass

Students should be able to

- ✱ measure items in kilograms, grams, ounces, and pounds.
- ✱ compare items of different masses.
- ✱ add, subtract, multiply, and divide different masses.
- ✱ solve 1-step story problems related to mass.

### Review 4

This review tests students' understanding of Units 8 & 9.

### Mid-Review

This review is an excellent assessment of students' understanding of all the topics in the first half of this book.

# FORMULA SHEET

## Unit 1 Numbers 1-1,000

Numbers can be written as words.

Example: 549 **five hundred and forty-nine**

### Place value

The value of a digit is based on its place value in the number.

Examples: In 637,

the digit **7** is in the **ones** place,  
the digit **3** is in the **tens** place, and  
the digit **6** is in the **hundreds** place.

### Comparing numbers

Use the place value starting with hundreds to compare 2 numbers.

- When one number is bigger than the other, use the words *greater than* to describe it.
- When one number is less than the other, use the words *smaller than* to describe it.

### Order and Pattern

When arranging a set of numbers in order,

- determine if the series must begin with the largest or the smallest,
- compare the place value of the numbers,
- arrange the numbers in the correct order.

For number pattern problems,

- determine if the number pattern is in an increasing or a decreasing order,
- find the difference between 2 consecutive numbers,
- apply the difference to find the unknown number.

## Unit 2 Adding and Subtracting Numbers 1-1,000

### Adding without regrouping

- Add the digits in the ones place first.
- Add the digits in the tens place.
- Add the digits in the hundreds place.

### Adding with regrouping

- Add the digits in the ones place first. Regroup the ones if there are more than 10 ones.
- Add the digits in the tens place. Add another ten if there is a regrouping of ones. Regroup the tens if there are more than 10 tens.
- Add the digits in the hundreds place. Add another hundred if there is a regrouping of tens.

### Subtracting without regrouping

- Subtract the digits in the ones place first.
- Subtract the digits in the tens place.
- Subtract the digits in the hundreds place.

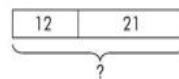
### Subtracting with regrouping

- Subtract the digits in the ones place first. If this is not possible, regroup the tens and ones.
- Subtract the digits in the tens place. If this is not possible, regroup the hundreds and tens.
- Subtract the digits in the hundreds place.

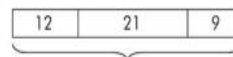
## Unit 3 Fun With Models (Adding and Subtracting)

Models are pictorial representations of mathematical problems. Models make the problems easier to understand and solve.

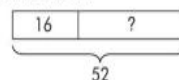
The following is an example of a model involving simple addition.



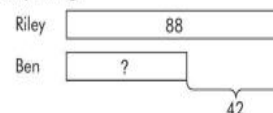
The following is an example of a model involving addition of 3 items.



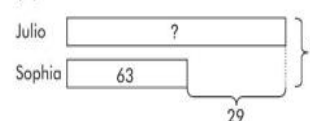
The following is an example of a model involving simple subtraction.



The following is an example of a model involving comparing.



The following is an example of a model in a 2-part story problem.



#### Unit 4 Multiplying and Dividing

Multiplication is also known as repeated addition.

Keywords: *times, multiply, or product*

For example,  $4 \times 5 = 4 + 4 + 4 + 4 + 4$

$$\begin{array}{ccccccc} 4 & \times & 5 & = & 20 \\ \text{(number)} & & \text{(number of times)} & & \text{(result)} \end{array}$$

Division is the opposite of multiplication.

Keywords: *equal, equally, or divide*

The  $\div$  sign is used to represent division in a number sentence.

Examples:  $20 \div 4 = 5$  or  $20 \div 5 = 4$

#### Unit 5 Multiplying and Dividing Numbers by 2 and 3

Below are the multiplication tables of 2 and 3.

| $\times$ | 2  | 3  |
|----------|----|----|
| 1        | 2  | 3  |
| 2        | 4  | 6  |
| 3        | 6  | 9  |
| 4        | 8  | 12 |
| 5        | 10 | 15 |
| 6        | 12 | 18 |
| 7        | 14 | 21 |
| 8        | 16 | 24 |
| 9        | 18 | 27 |
| 10       | 20 | 30 |
| 11       | 22 | 33 |
| 12       | 24 | 36 |

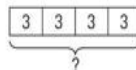
#### Unit 6 Multiplying and Dividing Numbers by 4, 5, and 10

Below are the multiplication tables of 4, 5, and 10.

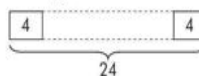
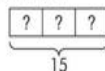
| $\times$ | 4  | 5  | 10  |
|----------|----|----|-----|
| 1        | 4  | 5  | 10  |
| 2        | 8  | 10 | 20  |
| 3        | 12 | 15 | 30  |
| 4        | 16 | 20 | 40  |
| 5        | 20 | 25 | 50  |
| 6        | 24 | 30 | 60  |
| 7        | 28 | 35 | 70  |
| 8        | 32 | 40 | 80  |
| 9        | 36 | 45 | 90  |
| 10       | 40 | 50 | 100 |
| 11       | 44 | 55 | 110 |
| 12       | 48 | 60 | 120 |

#### Unit 7 Fun With Models (Multiplying and Dividing)

The following is an example of a model involving simple multiplication.



The following are examples of a model involving simple division.



#### Unit 8 Length

Length is how long an object is.

Height is how tall an object is.

Units of measurement are meters (m), centimeters (cm), inches (in.), feet (ft.), and yards (yd.).

When measuring the length of an object with a ruler, always place the object starting at the 0 on the ruler. If the starting point of the object is not at 0, subtract the markings on both ends of the object to find the actual length of the object.

##### 4 operations of length

When adding, subtracting, multiplying, and dividing lengths, make sure that they are in the same unit of measurement.

#### Unit 9 Mass

Mass is how heavy an object is.

Units of measurement are kilograms (kg), grams (g), ounces (oz.), and pounds (lb.).

##### Comparing the mass of 2 objects

When 2 objects have the same mass, use the words *as heavy as*.

When the mass of one object is heavier than that of the other object, use the words *more than*.

When the mass of one object is lighter than that of the other object, use the words *less than*.

##### Reading the mass of an object using a scale

When the object is placed on a scale, the needle will move and point to a number. That number is the mass of the object. Note the unit of measurement on the scale.

##### 4 operations of mass

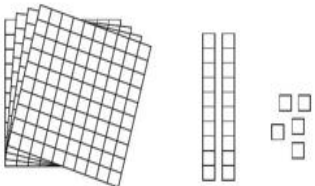
When adding, subtracting, multiplying, and dividing masses, make sure that they are in the same unit of measurement.

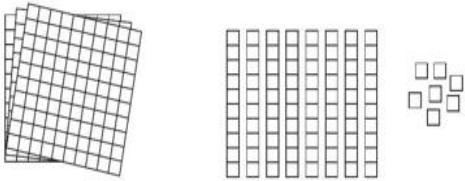
## Unit 1: NUMBERS 1–1,000

### Examples:

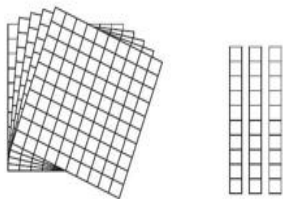
- Write 909 in words. nine hundred and nine
- In 285, which digit is in the tens place? 8
- In 704, in which place is the digit 4? ones
- Fill in the blank with *greater* or *smaller*.  
530 is \_\_\_\_\_ than 503. greater
- 50 less than 955 is \_\_\_\_\_. 905
- Fill in the missing numbers in the number pattern.  
410, 430, \_\_\_\_\_, \_\_\_\_\_, 490, 510 450, 470

Count the squares, and write the correct numbers on the lines.

1.  \_\_\_\_\_

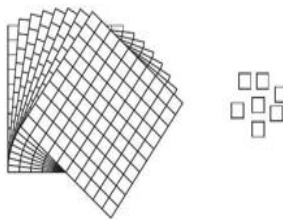
2.  \_\_\_\_\_

3.



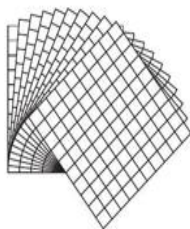
\_\_\_\_\_

4.



\_\_\_\_\_

5.



\_\_\_\_\_

**Write the following numbers as words on the lines.**

6. 760 \_\_\_\_\_

7. 378 \_\_\_\_\_

8. 456 \_\_\_\_\_

9. 202 \_\_\_\_\_

10. 1,000 \_\_\_\_\_

**Write the numbers on the lines.**

11. five hundred and sixty-two \_\_\_\_\_

12. seven hundred and seventy-nine \_\_\_\_\_

13. one hundred and ten \_\_\_\_\_

14. three hundred and fifty-eight \_\_\_\_\_

15. nine hundred and seven \_\_\_\_\_

**Fill in each blank with the correct answer.**

16. 825 = \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones

17. 630 = \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones

18. 705 = \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones

19. 459 = \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones

20. 1,000 = \_\_\_\_\_ hundreds \_\_\_\_\_ tens \_\_\_\_\_ ones

21. In 671, the digit 7 is in the \_\_\_\_\_ place.

22. In 415, the digit 4 is in the \_\_\_\_\_ place.

23. In 567, the digit 5 is in the \_\_\_\_\_ place.

24. In 928, the digit \_\_\_\_\_ is in the hundreds place.

25. In 873, the digit \_\_\_\_\_ is in the ones place.

26. In 609, the digit \_\_\_\_\_ is in the tens place.

**Fill in each blank with *smaller* or *greater*.**

27. 400 is \_\_\_\_\_ than 40.

28. 926 is \_\_\_\_\_ than 962.

29. 370 is \_\_\_\_\_ than 730.

30. 805 is \_\_\_\_\_ than 580.

31. 235 is \_\_\_\_\_ than 352.

**Arrange these numbers in order. Begin with the smallest.**

32. 397 379 973 937

---

33. 192 129 319 219

---

34. 715 571 751 511

---

35. 163 116 316 313

---

36. 404 434 443 344

---

**Arrange these numbers in order. Begin with the largest.**

37. 570 705 507 750

---

38. 314 413 134 341

---

39. 289 960 187 517 608

---

40. 320 190 857 220 456

---

41. 927 279 727 970 290

---

**Fill in each blank with the correct answer.**

42. 10 more than 560 is \_\_\_\_\_.

43. 20 less than 680 is \_\_\_\_\_.

44. \_\_\_\_\_ is 100 more than 778.

45. \_\_\_\_\_ is 200 less than 695.

46. \_\_\_\_\_ is 5 less than 279.

**Complete the number patterns.**

47. 280, 290, \_\_\_\_\_, \_\_\_\_\_, 320

48. 970, 870, 770, \_\_\_\_\_, \_\_\_\_\_

49. 760, \_\_\_\_\_, 800, 820, \_\_\_\_\_

50. 430, 460, \_\_\_\_\_, \_\_\_\_\_, 550

51. \_\_\_\_\_, \_\_\_\_\_, 650, 750, 850

## Unit 2: ADDING AND SUBTRACTING NUMBERS 1-1,000

**Examples:**

$$\begin{array}{r} 1. \quad 316 \\ + 121 \\ \hline 437 \end{array}$$

$$\begin{array}{r} 3. \quad \overset{1}{4} \overset{1}{8} 3 \\ + 398 \\ \hline 881 \end{array}$$

$$\begin{array}{r} 2. \quad 625 \\ - 313 \\ \hline 312 \end{array}$$

$$\begin{array}{r} 4. \quad \overset{6}{\cancel{7}} \overset{9}{\cancel{0}} \overset{10}{\cancel{0}} \\ - 293 \\ \hline 407 \end{array}$$

**Solve the addition problems below.**

$$\begin{array}{r} 1. \quad 143 \\ + 214 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 201 \\ + 283 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 312 \\ + 481 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 821 \\ + 163 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 732 \\ + 145 \\ \hline \end{array}$$

**Solve the subtraction problems below.**

$$\begin{array}{r} 6. \quad 569 \\ - 234 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 932 \\ - 121 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 736 \\ - 204 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 859 \\ - 607 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 375 \\ - 152 \\ \hline \end{array}$$

**Solve the following addition problems by regrouping.**

$$\begin{array}{r} 11. \quad 135 \\ + 109 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 256 \\ + 380 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 505 \\ + 295 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 462 \\ + 208 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 737 \\ + 129 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 397 \\ + 546 \\ \hline \end{array}$$

**Solve the following subtraction problems by regrouping.**

$$\begin{array}{r} 17. \quad 353 \\ - 174 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad 632 \\ - 171 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad 971 \\ - 369 \\ \hline \end{array}$$

$$\begin{array}{r} 21. \quad 412 \\ - 124 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad 400 \\ - 205 \\ \hline \end{array}$$

$$\begin{array}{r} 22. \quad 500 \\ - 178 \\ \hline \end{array}$$

$$\begin{array}{r} 23. \quad 800 \\ - 280 \\ \hline \end{array}$$

$$\begin{array}{r} 24. \quad 980 \\ - 555 \\ \hline \end{array}$$

25. Match each balloon to the correct tag.

532 •

•  592 - 368

999 •

•  446 + 369

224 •

•  1,000 - 468

697 •

•  319 + 680

815 •

•  856 - 159

Fill in each empty box with a +, - or = sign.

26.

|    |  |    |  |     |
|----|--|----|--|-----|
| 73 |  | 42 |  | 115 |
|    |  |    |  |     |
| 70 |  | 30 |  | 40  |
|    |  |    |  |     |
| 3  |  | 72 |  | 75  |

27.

|     |  |     |  |     |
|-----|--|-----|--|-----|
| 231 |  | 124 |  | 355 |
|     |  |     |  |     |
| 115 |  | 96  |  | 19  |
|     |  |     |  |     |
| 116 |  | 220 |  | 336 |

**Solve the following story problems. Show your work in the space below.**

28. Lena collects 389 stickers. Anne collects 317 more stickers than Lena. How many stickers does Anne collect?

Anne collects \_\_\_\_\_ stickers.

29. Tom has 416 bottle caps. John has 29 bottle caps fewer than Tom. How many bottle caps does John have?

John has \_\_\_\_\_ bottle caps.

30. Mr. Abdul sold 586 roses on Monday. He sold 237 roses on Tuesday. How many roses did he sell altogether?

He sold \_\_\_\_\_ roses altogether.

31. There were 416 visitors to a museum on Saturday. There were 555 visitors to the museum on Sunday. How many visitors were at the museum on both days?

\_\_\_\_\_ visitors were at the museum on both days.

32. Marcus and Jack spent \$837 at a computer fair. If Jack spent \$469, how much did Marcus spend?

Marcus spent \$\_\_\_\_\_.

## REVIEW 1

**Write the following numbers as words on the lines.**

1. 375 \_\_\_\_\_
2. 919 \_\_\_\_\_

**Write the numbers on the lines.**

3. two hundred and twelve \_\_\_\_\_
4. three hundred and three \_\_\_\_\_
5. Arrange these numbers in order. Begin with the largest.

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 313 | 420 | 179 | 402 | 917 |
|-----|-----|-----|-----|-----|

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

6. Arrange these numbers in order. Begin with the smallest.

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 812 | 128 | 182 | 281 | 218 |
|-----|-----|-----|-----|-----|

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**Fill in each blank with the correct answer.**

7. 10 more than 360 is \_\_\_\_\_.
8. 50 less than 876 is \_\_\_\_\_.
9. 536, \_\_\_\_\_, 496, 476, \_\_\_\_\_

**Solve the problems below. Show your work.**

$$\begin{array}{r} 10. \quad 608 \\ + 129 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 700 \\ - 435 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 576 \\ + 188 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 328 \\ - 109 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 154 \\ + 365 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 860 \\ - 389 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 312 \\ + 498 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad 542 \\ - 379 \\ \hline \end{array}$$

**Solve the following story problems. Show your work in the space below.**

18. The table below shows the number of people who went to the zoo on 3 different days.

| Monday | Tuesday | Wednesday |
|--------|---------|-----------|
| 379    | 686     | 575       |

- (a) How many more people went to the zoo on Wednesday than on Monday?

\_\_\_\_\_ more people went to the zoo on Wednesday than on Monday.

(b) How many fewer people went to the zoo on Monday than on Tuesday?

\_\_\_\_\_ fewer people went to the zoo on Monday than on Tuesday.

19. Aaron has collected 494 stamps. He wants to collect 1,000 stamps. How many more stamps does Aaron need to collect?

Aaron needs to collect \_\_\_\_\_ more stamps.

20. Jazmin sold 360 flowers on Friday. She sold 265 flowers on Saturday. How many flowers did Jazmin sell on both days?

Jazmin sold \_\_\_\_\_ flowers on both days.

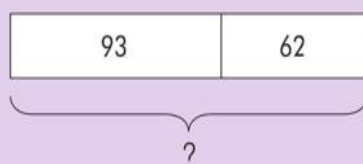
## Unit 3: FUN WITH MODELS (ADDING AND SUBTRACTING)

### Examples:

1. James has 93 postcards.

Anya has 62 postcards.

How many postcards do they have altogether?



$$93 + 62 = 155$$

They have 155 postcards altogether.

2. Aunt Lily had \$59.

She spent \$17 on a book.

How much did she have left?



$$\$59 - \$17 = \$42$$

She had \$42 left.

**Draw the models, and solve the following story problems.**

1. Danny has 576 bookmarks. Emilio has 186 bookmarks. How many bookmarks do they have altogether?

$$\square \bigcirc \square = \square$$

They have \_\_\_\_\_ bookmarks altogether.

2. Eddy has 280 chickens. He sells 168 chickens. How many chickens does he have left?

$$\square \bigcirc \square = \square$$

He has \_\_\_\_\_ chickens left.

3. A shopkeeper sold 360 oranges on Monday. He sold 275 oranges on Tuesday and another 150 oranges on Wednesday. How many oranges did he sell altogether?

$$\square \bigcirc \square \bigcirc \square = \square$$

He sold \_\_\_\_\_ oranges altogether.

4. Samantha had 96 seashells. She gave some to her best friend. She had 78 seashells left. How many did she give to her best friend?

$$\square \bigcirc \square = \square$$

She gave \_\_\_\_\_ seashells to her best friend.

5. Andy received 131 stamps from his father. His sister gave him 280 stamps. How many stamps did he have altogether?

$$\square \bigcirc \square = \square$$

He had \_\_\_\_\_ stamps altogether.

6. There are 216 chickens, 137 ducks, and 97 rabbits on a farm. How many animals are there on the farm?

$$\square \bigcirc \square \bigcirc \square = \square$$

There are \_\_\_\_\_ animals on the farm.

7. Malik had 720 trading cards. He gave some to his brother. He had 465 trading cards left. How many trading cards did he give to his brother?

$$\square \bigcirc \square = \square$$

He gave \_\_\_\_\_ trading cards to his brother.

8. Hitomi saves \$310. Her brother saves \$280 more than Hitomi.

(a) How much does her brother save?

$$\square \bigcirc \square = \square$$

Her brother saves \$\_\_\_\_\_.

(b) How much do they save altogether?

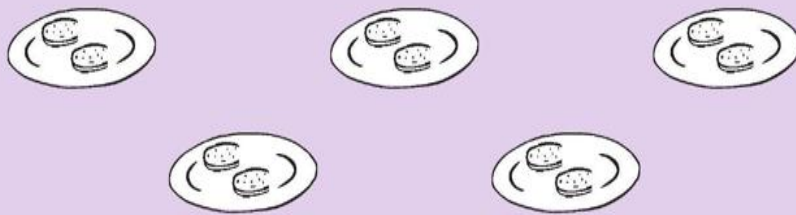
$$\square \bigcirc \square = \square$$

They save \$\_\_\_\_\_ altogether.

## Unit 4: MULTIPLYING AND DIVIDING

### Examples:

1.



There are 5 plates on a table.  
There are 2 crackers on each plate.  
How many crackers are there altogether?

$$5 \times 2 = 10$$

There are 10 crackers altogether.

2.



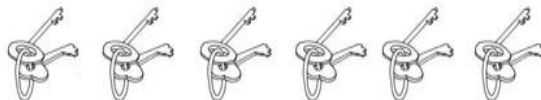
Natalie bought 16 ears of sweet corn.  
She put an equal number of ears of corn into 4 bags.  
How many ears of corn are there in each bag?

$$16 \div 4 = 4$$

There are 4 ears of sweet corn in each bag.

Look at the pictures carefully, and fill in each blank with the correct answer.

1.



$$6 \text{ twos} = \underline{\hspace{2cm}}$$

$$6 \times 2 = \underline{\hspace{2cm}}$$

2.



$$5 \text{ fours} = \underline{\hspace{2cm}}$$

$$5 \times 4 = \underline{\hspace{2cm}}$$

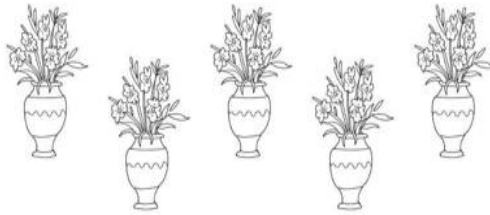
3.



$$7 \text{ threes} = \underline{\hspace{2cm}}$$

$$7 \times 3 = \underline{\hspace{2cm}}$$

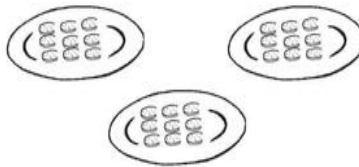
4.



5 fives = \_\_\_\_\_

$5 \times 5 =$  \_\_\_\_\_

5.

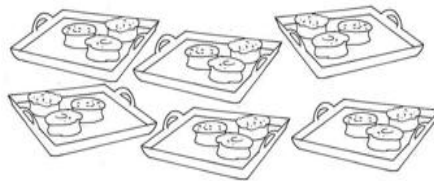


3 nines = \_\_\_\_\_

$3 \times 9 =$  \_\_\_\_\_

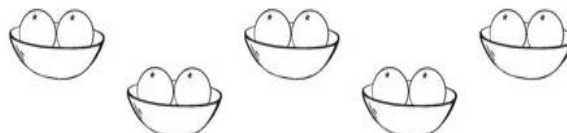
**Study the pictures below. Fill in each blank with the correct answer.**

6.



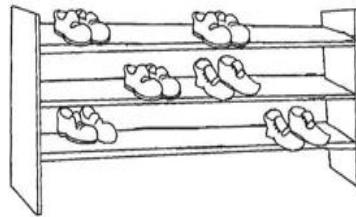
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

7.



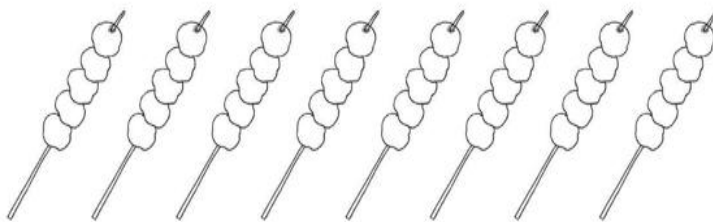
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

8.



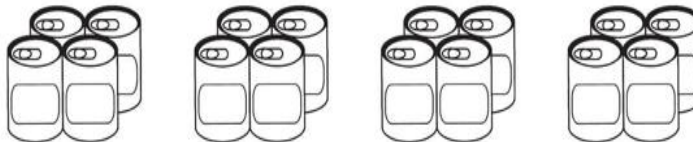
$$\underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

9.



$$\underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

10.



$$\underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$$

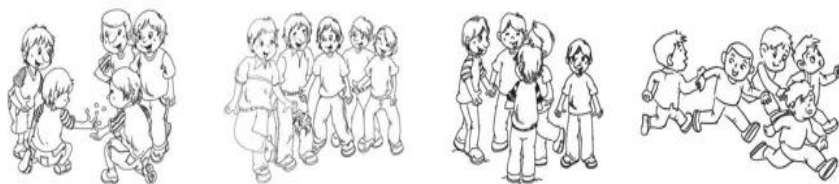
**Look at the pictures carefully, and fill in each blank with the correct answer.**

11.



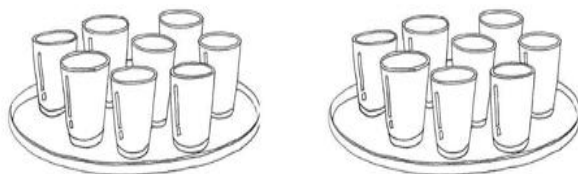
$$7 \times \underline{\quad} = \underline{\quad}$$

12.



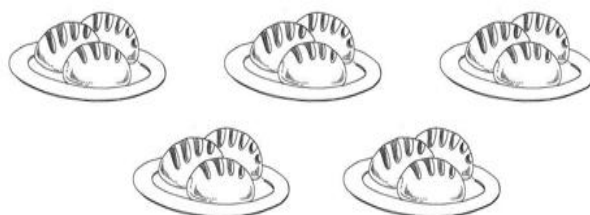
$$\underline{\hspace{2cm}} \times 5 = \underline{\hspace{2cm}}$$

13.



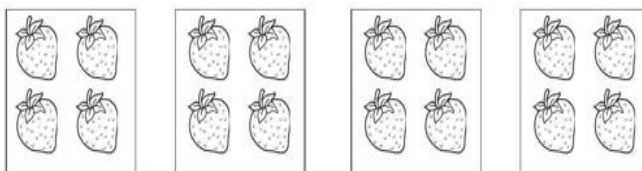
$$2 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

14.



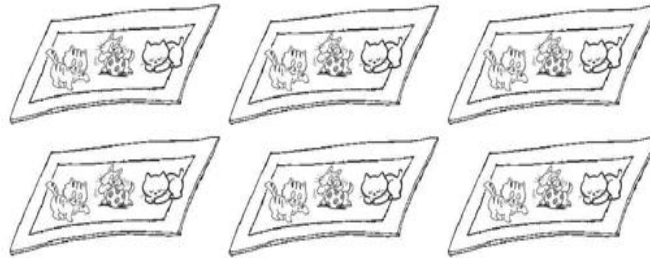
$$5 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

15.



$$\underline{\hspace{2cm}} \times 4 = \underline{\hspace{2cm}}$$

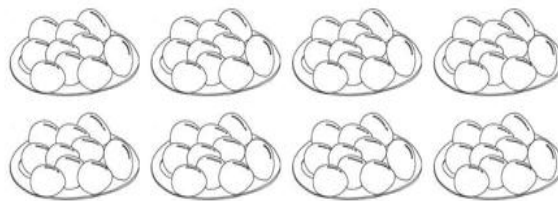
16. There are 3 kittens on each mat.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            kittens altogether.

17. There are 10 eggs on each tray.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            eggs altogether.

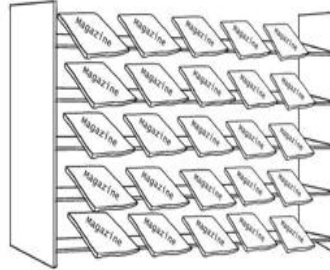
18. There are 4 teddy bears in each group.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            teddy bears altogether.

19. There are 5 magazines on each shelf.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            magazines altogether.

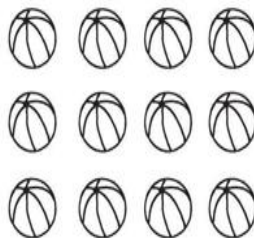
20. There are 7 pieces of candy in each box.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            pieces of candy altogether.

21. Divide 12 balls into 3 equal groups.



$$12 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            balls in each group.

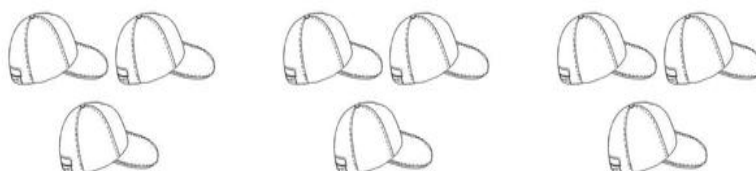
22. Divide 20 bottle caps into 2 equal groups.



$$20 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            bottle caps in each group.

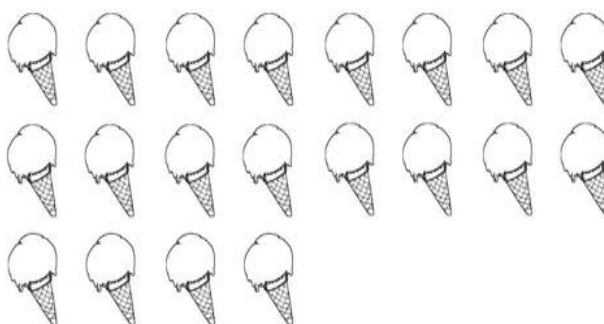
23. Divide 9 hats into groups of 3.



$$9 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            groups of hats.

24. Divide 20 ice-cream cones into groups of 4.



$$20 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            groups of ice-cream cones.

25. Divide 18 pens into groups of 3.

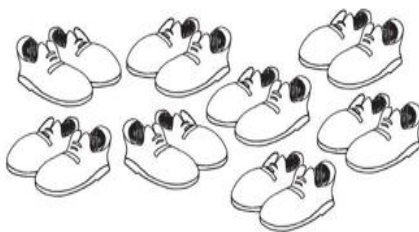


$$18 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            groups of pens.

**Write 2 multiplication and division sentences for each set of pictures.**

26.



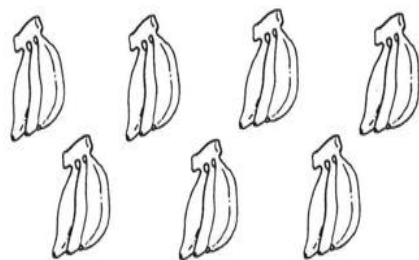
$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

27.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

28.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

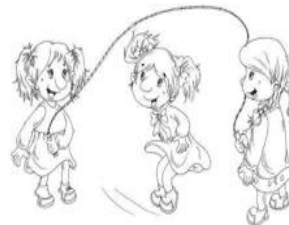
29.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

30.



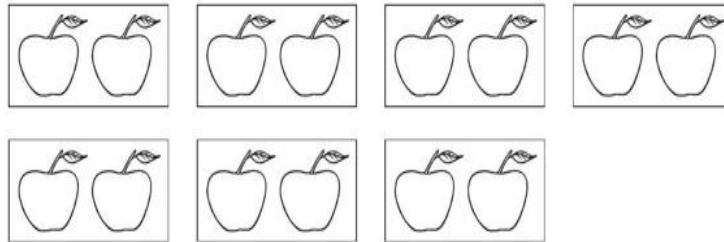
$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

## REVIEW 2

Look at the pictures carefully, and fill in each blank with the correct answer.

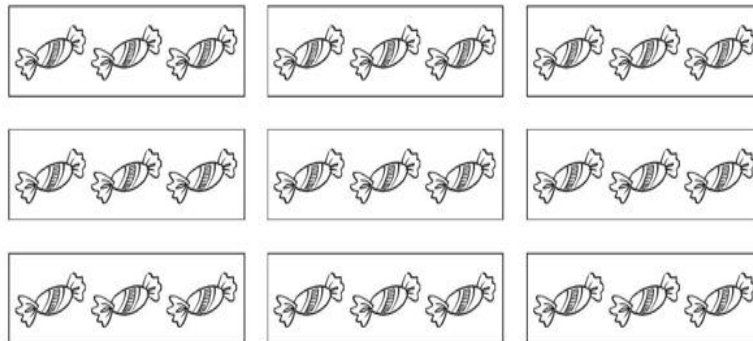
1.



$$7 \text{ twos} = \underline{\hspace{2cm}}$$

$$7 \times 2 = \underline{\hspace{2cm}}$$

2.

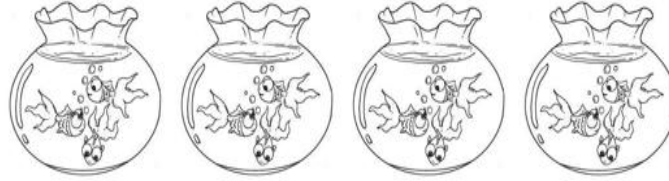


$$\underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} +$$

$$\underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{2cm}}$$

Write 2 multiplication and division sentences for each set of pictures.

3.



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

4.



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

Study the pictures carefully, and fill in each blank with the correct answer.

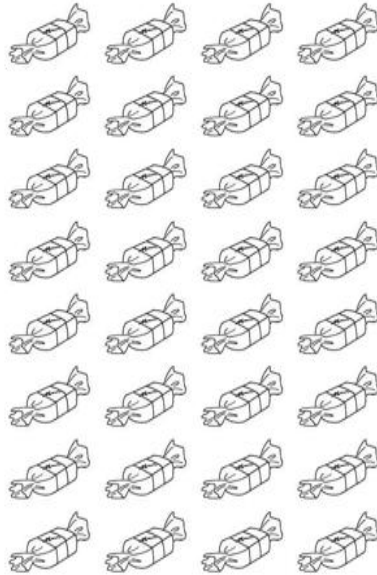
5. Divide 15 spoons into 3 equal groups.



$$15 \div \underline{\quad} = \underline{\quad}$$

There are  $\underline{\quad}$  spoons in each group.

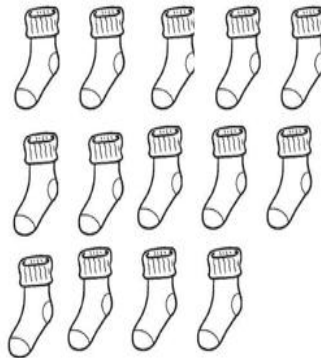
6. Divide 32 pieces of candy into groups of 4.



$$32 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            groups of candy.

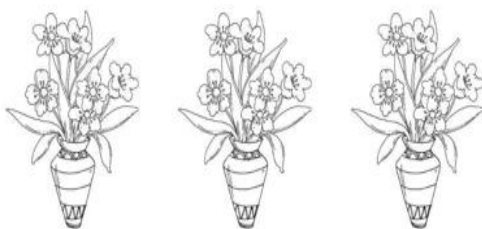
7. Divide 14 socks into 2 equal groups.



$$14 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            socks in each group.

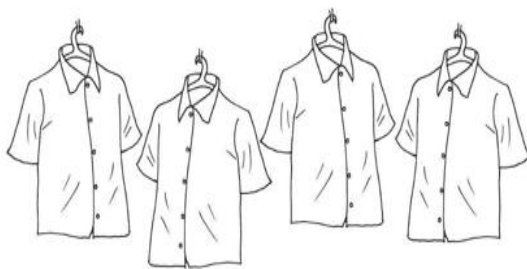
8. There are 6 flowers in each vase.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            flowers altogether.

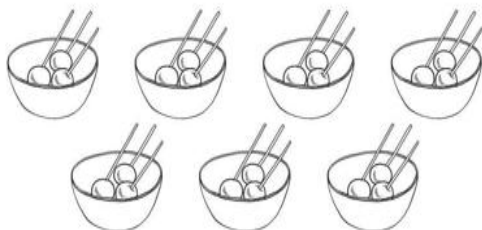
9. There are 5 buttons on each shirt.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            buttons altogether.

10. There are 3 lollipops in each bowl.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

There are            lollipops altogether.

**Draw the models, and solve the following story problems.**

11. Abby has 796 stickers in her collection. Her sister gives her another 159 stickers. How many stickers does Abby have?

Abby has \_\_\_\_\_ stickers.

12. Jaya has 187 oranges. She uses 93 oranges to make some juice for a party. How many oranges does she have left?

She has \_\_\_\_\_ oranges left.

13. Benjamin scored 96 on his English test. He scored 82 on his math test. What was his combined score for both tests?

He scored \_\_\_\_\_ on both tests combined.

14. (a) Mrs. Anderson baked 455 cookies at her bakery on Saturday. She baked 380 cookies on Sunday. How many cookies did she bake during the weekend?

She baked \_\_\_\_\_ cookies during the weekend.

- (b) She gave 172 cookies to her son's school. How many cookies did she have left?

She had \_\_\_\_\_ cookies left.

15. Katrina has 496 books. Isabel has 388 books. How many books do they have in all?

They have \_\_\_\_\_ books in all.

16. Cameron spent \$285 on a trip to Florida. Antonio spent \$62 less than Cameron. How much did Antonio spend?

Antonio spent \$\_\_\_\_\_.

17. Dmitri has 9 marbles. Adrian has 8 marbles. Zackary has 6 marbles. How many marbles do the 3 boys have altogether?

The 3 boys have \_\_\_\_\_ marbles altogether.

18. Mr. Simon had 245 oranges and 379 apples. 188 pieces of fruit were rotten. How many pieces of fruit did Mr. Simon have left?

Mr. Simon had \_\_\_\_\_ pieces of fruit left.

19. Kaylee spent \$503 in June. She spent \$128 less in June than in July. How much did she spend in July?

She spent \$\_\_\_\_\_ in July.

20. 586 visitors went to the zoo in November. 253 fewer visitors went to the zoo in December. How many visitors went to the zoo in these 2 months?

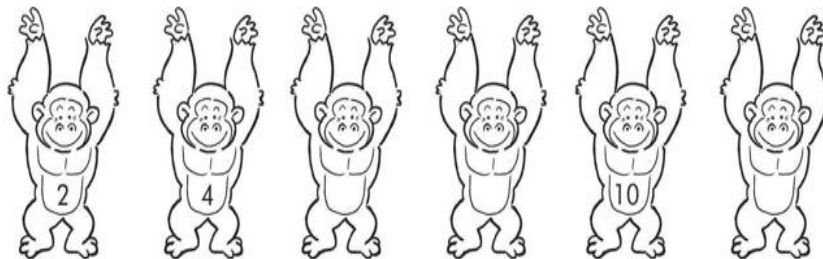
\_\_\_\_\_ visitors went to the zoo in these 2 months.

## Unit 5: MULTIPLYING AND DIVIDING NUMBERS BY 2 AND 3

### Examples:

1. Rick has 3 notebooks.  
There are 10 pages in each notebook.  
How many pages are there in all?  
$$3 \times 10 = 30$$
  
There are 30 pages in all.
2. Mrs. Mendoza has 18 carrots.  
She gives each rabbit 2 carrots.  
How many rabbits does she give all her carrots to?  
$$18 \div 2 = 9$$
  
She gives all her carrots to 9 rabbits.

1. Fill in each blank by counting in twos.



2. Fill in each blank by counting in threes.



**Fill in each blank with the correct answer.**

3.  $4 \times 2 =$  \_\_\_\_\_

8.  $3 \times 3 =$  \_\_\_\_\_

4.  $6 \times 2 =$  \_\_\_\_\_

9.  $7 \times 3 =$  \_\_\_\_\_

5.  $5 \times 3 =$  \_\_\_\_\_

10.  $9 \times 2 =$  \_\_\_\_\_

6.  $8 \times 2 =$  \_\_\_\_\_

11.  $6 \times 3 =$  \_\_\_\_\_

7.  $9 \times 3 =$  \_\_\_\_\_

12.  $5 \times 2 =$  \_\_\_\_\_

**Fill in each blank with the correct answer.**

13. \_\_\_\_\_  $\times 2 = 20$

18.  $3 \times$  \_\_\_\_\_  $= 27$

14. \_\_\_\_\_  $\times 3 = 15$

19.  $2 \times$  \_\_\_\_\_  $= 10$

15.  $2 \times$  \_\_\_\_\_  $= 12$

20. \_\_\_\_\_  $\times 3 = 12$

16.  $3 \times$  \_\_\_\_\_  $= 9$

21. \_\_\_\_\_  $\times 2 = 16$

17.  $3 \times$  \_\_\_\_\_  $= 18$

22. \_\_\_\_\_  $\times 2 = 18$

**Fill in each blank with the correct answer.**

23.  $30 \div 3 =$  \_\_\_\_\_

28.  $8 \div 2 =$  \_\_\_\_\_

24.  $21 \div 3 =$  \_\_\_\_\_

29.  $12 \div 2 =$  \_\_\_\_\_

25.  $16 \div 2 =$  \_\_\_\_\_

30.  $15 \div 3 =$  \_\_\_\_\_

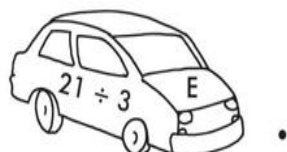
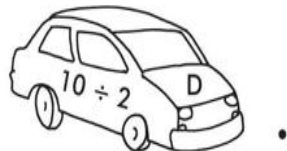
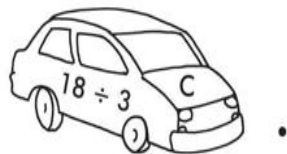
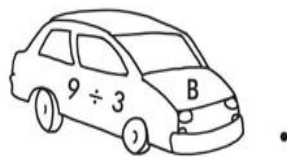
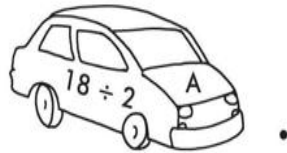
26.  $18 \div 3 =$  \_\_\_\_\_

31.  $10 \div 2 =$  \_\_\_\_\_

27.  $14 \div 2 =$  \_\_\_\_\_

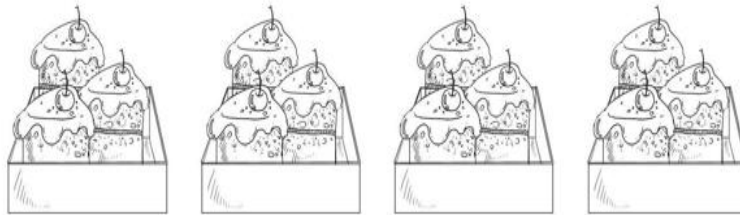
32.  $24 \div 3 =$  \_\_\_\_\_

33. Match each car to the correct owner.



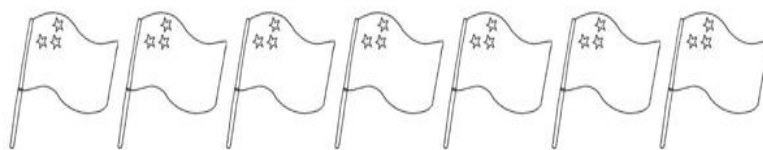
**Solve the following story problems. Show your work in the space below.**

34. Taylor bought 4 boxes of cake. There were 3 pieces of cake in each box. How many pieces of cake were there altogether?



There were \_\_\_\_\_ pieces of cake altogether.

35. There are 3 stars on a flag. There are 7 flags. How many stars are there altogether?



There are \_\_\_\_\_ stars altogether.

36. Each tricycle has 3 wheels. There are 15 wheels altogether. How many tricycles are there?

There are \_\_\_\_\_ tricycles.

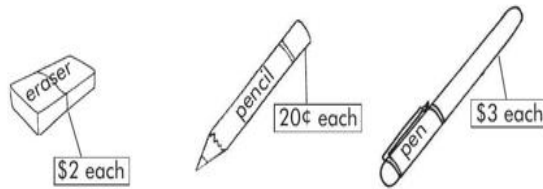
37. Eliza baked 14 muffins. She gave 2 muffins to each of her friends. How many friends did she give the muffins to?

She gave the muffins to \_\_\_\_\_ friends.

38. Minh packs 3 tennis balls into each bag. If there are 27 tennis balls, how many bags will she need?

She will need \_\_\_\_\_ bags.

39. The picture below shows several items sold at a drugstore.



(a) Jane buys 4 erasers. How much does she pay in all?

\$\_\_\_\_\_

(b) Luke has \$12. How many pens can he buy?

\_\_\_\_\_ pens

(c) Ken buys 3 pens. How much does he pay altogether?

\$\_\_\_\_\_

(d) Jade has \$16. How many erasers can she buy?

\_\_\_\_\_ erasers

(e) There are 4 students in a group. If Mrs. Moran gives 3 pencils to each student, how many pencils does she need to buy?

\_\_\_\_\_ pencils

40. Complete the crossword puzzle with the correct answers.

|    |   |   |   |    |
|----|---|---|---|----|
| 12 | ÷ |   | = | 6  |
| ÷  |   |   |   | ×  |
|    | ÷ |   | = |    |
| =  |   |   |   | =  |
|    | × | 9 | = | 18 |

## Unit 6: MULTIPLYING AND DIVIDING NUMBERS BY 4, 5, AND 10

### **Examples:**

1. There are 10 SUVs in a parking lot.  
Each SUV has 4 wheels.  
How many wheels are there altogether?

$$10 \times 4 = 40$$

There are 40 wheels altogether.

2. Uncle Ron works 5 days each week.  
How many days does he work in 8 weeks?

$$8 \times 5 = 40$$

He works 40 days in 8 weeks.

3. There are 80 pens.  
Andre ties 10 pens in each bundle.  
How many bundles of pens does Andre tie?

$$80 \div 10 = 8$$

Andre ties 8 bundles of pens.

**Complete the following tables.**

1. Each car has 4 wheels.



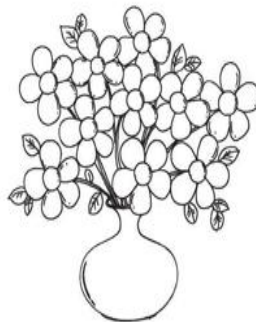
|                  |   |   |   |    |   |
|------------------|---|---|---|----|---|
| Number of cars   | 1 | 2 | 4 |    | 9 |
| Number of wheels | 4 | 8 |   | 28 |   |

2. Each hand has 5 fingers.



|                   |    |    |   |    |    |
|-------------------|----|----|---|----|----|
| Number of hands   | 2  |    | 6 |    | 10 |
| Number of fingers | 10 | 20 |   | 45 |    |

3. Each vase has 10 flowers.



|                   |    |    |   |   |     |
|-------------------|----|----|---|---|-----|
| Number of vases   | 3  |    | 7 | 8 |     |
| Number of flowers | 30 | 50 |   |   | 100 |

**Fill in each blank with the correct answer.**

4.  $6 \times 4 =$  \_\_\_\_\_

9.  $8 \times 10 =$  \_\_\_\_\_

5.  $3 \times 5 =$  \_\_\_\_\_

10.  $9 \times 4 =$  \_\_\_\_\_

6.  $6 \times 5 =$  \_\_\_\_\_

11.  $7 \times 10 =$  \_\_\_\_\_

7.  $9 \times 5 =$  \_\_\_\_\_

12.  $2 \times 4 =$  \_\_\_\_\_

8.  $3 \times 10 =$  \_\_\_\_\_

13.  $7 \times 5 =$  \_\_\_\_\_

**Fill in each blank with the correct answer.**

14.  $30 \div 5 =$  \_\_\_\_\_

19.  $90 \div 10 =$  \_\_\_\_\_

15.  $20 \div 10 =$  \_\_\_\_\_

20.  $12 \div 4 =$  \_\_\_\_\_

16.  $16 \div 4 =$  \_\_\_\_\_

21.  $100 \div 10 =$  \_\_\_\_\_

17.  $40 \div 5 =$  \_\_\_\_\_

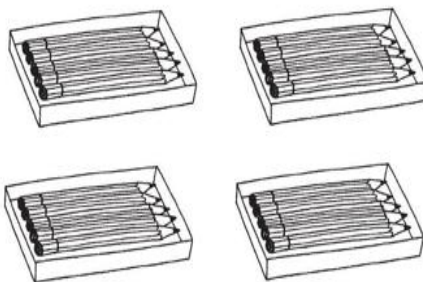
22.  $10 \div 5 =$  \_\_\_\_\_

18.  $24 \div 4 =$  \_\_\_\_\_

23.  $40 \div 10 =$  \_\_\_\_\_

**Write 2 multiplication and division sentences for each set of pictures.**

24.



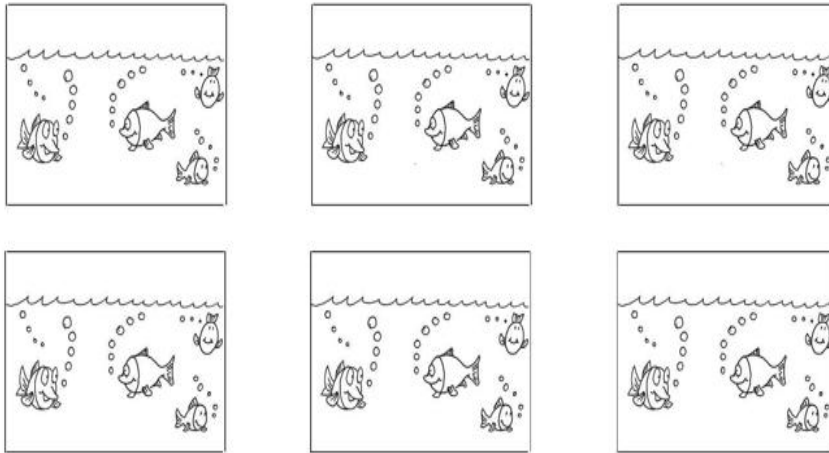
\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_  $\div$  \_\_\_\_\_ = \_\_\_\_\_

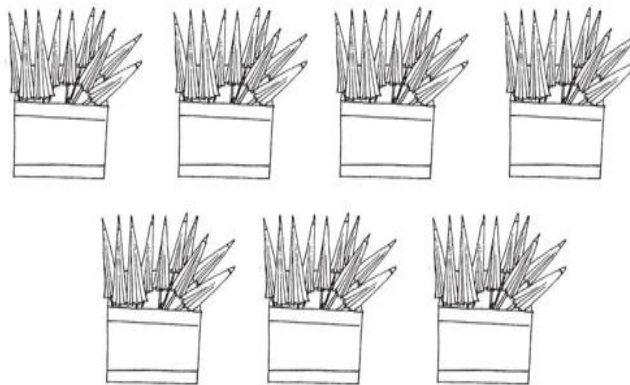
25.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

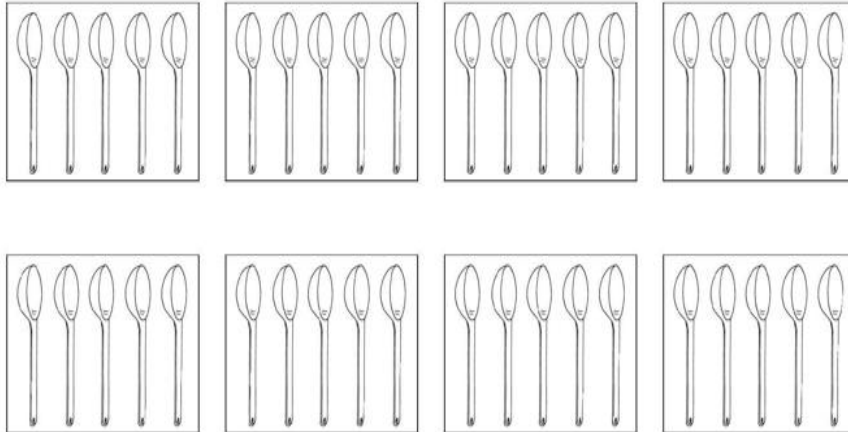
26.



$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \qquad \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

27.



$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

28.



$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

**Solve the following story problems. Show your work in the space below.**

29. Mom buys 6 bags of apples. There are 5 apples in each bag. How many apples are there altogether?

There are \_\_\_\_\_ apples altogether.

30. Sam spends \$10 every week. How much does he spend in 8 weeks?

Sam spends \$\_\_\_\_\_ in 8 weeks.

31. Leyla bought 4 meters of fabric. Each meter cost \$7. How much did Leyla spend altogether?

Leyla spent \$\_\_\_\_\_ altogether.

32. Dad sews 15 buttons on 3 shirts. How many buttons are there on each shirt?

There are \_\_\_\_\_ buttons on each shirt.

33. Alicia packs 10 packages of crackers into each bag. If there are 100 packages of crackers, how many bags does Alicia need?

Alicia needs \_\_\_\_\_ bags.

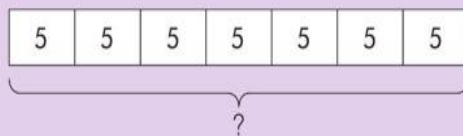
34. Maggy saves \$5 every month. How much will she save in 10 months?

Maggy will save \$\_\_\_\_\_ in 10 months.

## Unit 7: FUN WITH MODELS (MULTIPLYING AND DIVIDING)

### Examples:

1. Gigi uses 5 oranges to make a glass of juice.  
She makes 7 glasses of juice.  
How many oranges does she use altogether?



$$7 \times 5 = 35$$

She uses 35 oranges altogether.

2. Yumi spent \$24 on some T-shirts.  
Each T-shirt cost \$6.  
How many T-shirts did she buy?



$$\$24 \div \$6 = 4$$

She bought 4 T-shirts.

**Draw the models, and solve the following story problems.**

1. There are 5 albums. Each album contains 10 stamps. How many stamps are there in all?

There are \_\_\_\_\_ stamps in all.

2. There are 3 eggs in a bag. How many eggs are there in 6 bags?

There are \_\_\_\_\_ eggs in 6 bags.

3. Grace and 4 friends share 30 oranges equally. How many oranges does each of them have?

Each of them has \_\_\_\_\_ oranges.

4. Hakeem buys 4 packets of stickers. There are 9 stickers in each packet. How many stickers does he buy?

He buys \_\_\_\_\_ stickers.

5. Kelly bought 18 sunflowers. She placed an equal number into 2 vases. How many sunflowers were there in each vase?

There were \_\_\_\_\_ sunflowers in each vase.

6. Ms. Drew gave 36 markers to some children. Each child received 4 markers. How many children did Ms. Drew give the markers to?

Ms. Drew gave the markers to \_\_\_\_\_ children.

7. Each child has 7 library books. How many books do 5 children have?

5 children have \_\_\_\_\_ library books.

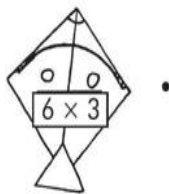
8. Mom bought 21 rolls. She placed 3 rolls on each plate. How many plates did she use?

She used \_\_\_\_\_ plates.

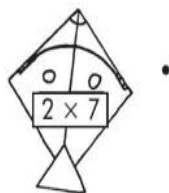
## REVIEW 3

Match each kite to the correct girl.

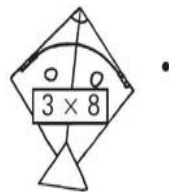
1.



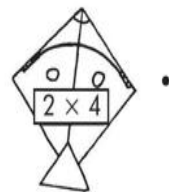
2.



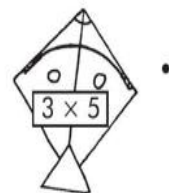
3.



4.



5.



**Fill in each blank with the correct answer.**

6.  $80 \div 10 = \underline{\hspace{2cm}}$

11.  $\underline{\hspace{2cm}} \times 4 = 16$

7.  $45 \div 5 = \underline{\hspace{2cm}}$

12.  $10 \times \underline{\hspace{2cm}} = 20$

8.  $12 \div 2 = \underline{\hspace{2cm}}$

13.  $6 \times \underline{\hspace{2cm}} = 18$

9.  $24 \div 3 = \underline{\hspace{2cm}}$

14.  $\underline{\hspace{2cm}} \times 5 = 25$

10.  $28 \div 4 = \underline{\hspace{2cm}}$

15.  $\underline{\hspace{2cm}} \times 10 = 100$

**Draw the models, and solve the following story problems.**

16. There are 6 pencils in a box. How many pencils are there in 4 boxes?

There are  $\underline{\hspace{2cm}}$  pencils in 4 boxes.

17. Zoe and 3 cousins shared a sum of \$36. How much did each of them receive?

Each of them received \$ $\underline{\hspace{2cm}}$ .

18. Dad makes 50 muffins. He gives all the muffins to some friends. Each friend receives 5 muffins. How many friends does Dad give the muffins to?

Dad gives the muffins to \_\_\_\_\_ friends.

19. There are 30 pieces of colored paper in a package. There are 6 different colors. How many pieces of each color are there if the package contains an equal number of pieces for each color?

There are \_\_\_\_\_ pieces of each color.

20. Mrs. Yamamoto has 4 children. She buys a pair of gloves for each child. How many gloves does she buy?

She buys \_\_\_\_\_ gloves.

## Unit 8: LENGTH

### Examples:

1.

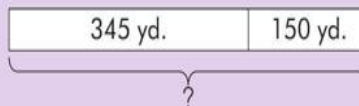


What is the length of the card shown above?

$$12 - 3 = 9$$

The length of the card is 9 cm.

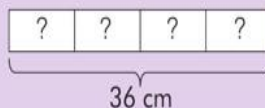
2. Charlotte walked 345 yd. to a café.  
She walked another 150 yd. to the park.  
How far did she walk in all?



$$345 + 150 = 495$$

She walked 495 yd. in all.

3. Fanny sews 4 pieces of ribbon to each side of a square cushion.  
If she uses 36 cm of ribbon altogether, what is the length of each piece of ribbon?



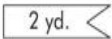
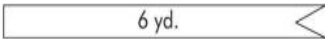
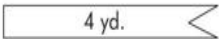
$$36 \div 4 = 9$$

The length of each piece of ribbon is 9 cm.

**Write more or less on the lines.**

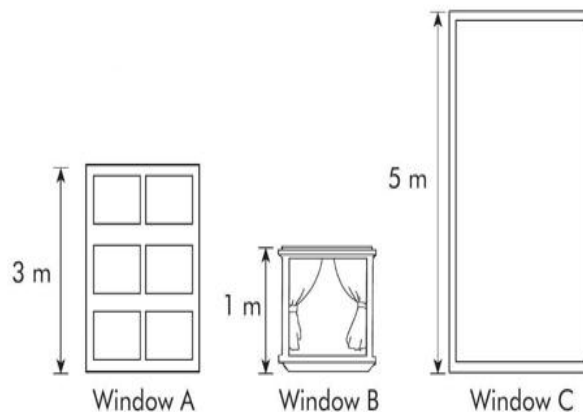
1. The height of a flagpole is \_\_\_\_\_ than 1 m.
2. The length of a box of tissues is \_\_\_\_\_ than 1 m.
3. The length of a pencil is \_\_\_\_\_ than 1 m.
4. The height of a four-story school is \_\_\_\_\_ than 1 m.
5. The length of a workbook is \_\_\_\_\_ than 1 m.

**Fill in each blank with the correct answer.**

6. Ribbon A  2 yd.  6 yd.  
Ribbon B  4 yd.  
Ribbon C

- (a) Ribbon \_\_\_\_\_ is the shortest.
- (b) Ribbon \_\_\_\_\_ is the longest.
- (c) Ribbon A is \_\_\_\_\_ yd. shorter than Ribbon C.
- (d) Ribbon C is \_\_\_\_\_ yd. shorter than Ribbon B.
- (e) Ribbon B is \_\_\_\_\_ yd. longer than Ribbon C.
- (f) Ribbon B is \_\_\_\_\_ yd. longer than Ribbon A.

7.



- (a) Window \_\_\_\_\_ is the tallest.
- (b) Window \_\_\_\_\_ is the shortest.
- (c) Window A is \_\_\_\_\_ m shorter than Window C.
- (d) Window B is \_\_\_\_\_ m shorter than Window A.
- (e) Window C is \_\_\_\_\_ m taller than Window B.
- (f) Window C is \_\_\_\_\_ m taller than Window A.

8. Use a ruler to draw a line 4 in. long. Label it XY.

9. Use a ruler to draw a line 6 in. long. Label it WX.

10. Use a ruler to draw a line 5 in. long. Label it YZ.

**Measure the following items with a ruler, and answer questions 11 to 14.**

11.



The pen is \_\_\_\_\_ cm long.

12.



The envelope is \_\_\_\_\_ cm long.

13.



The notebook is \_\_\_\_\_ cm wide.

14.



The calculator is \_\_\_\_\_ cm wide.

**Fill in each blank with *longer than* or *shorter than*.**

15. A \_\_\_\_\_ B \_\_\_\_\_

Line B is \_\_\_\_\_ Line A.

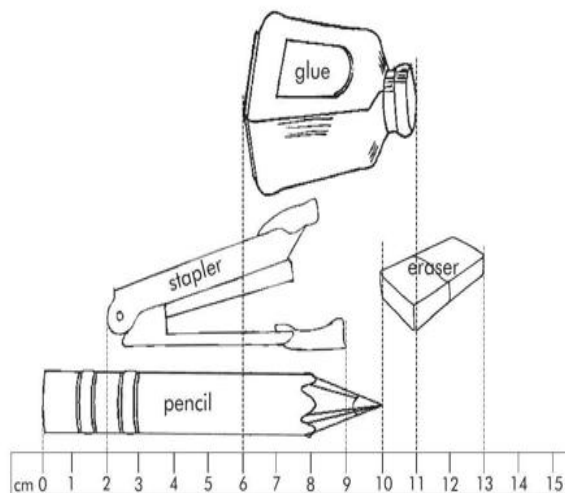
16. A \_\_\_\_\_ B \_\_\_\_\_

Line A is \_\_\_\_\_ Line B.

17. A \_\_\_\_\_ B \_\_\_\_\_

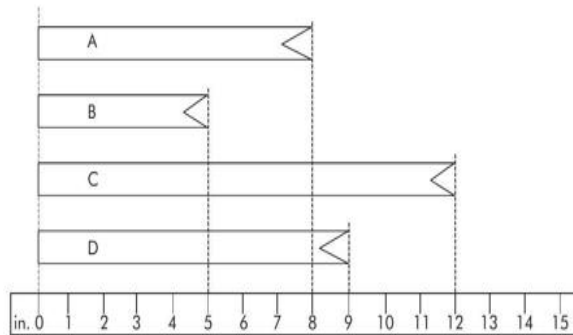
Line A is \_\_\_\_\_ Line B.

18. Study the picture carefully. Fill in each blank with the correct answer.



- (a) The stapler is \_\_\_\_\_ cm long.
- (b) The eraser is \_\_\_\_\_ cm long.
- (c) The bottle of glue is \_\_\_\_\_ cm long.
- (d) The pencil is \_\_\_\_\_ cm long.
- (e) The eraser is \_\_\_\_\_ cm shorter than the pencil.
- (f) The stapler is \_\_\_\_\_ cm longer than the bottle of glue.
- (g) The longest item is the \_\_\_\_\_.
- (h) The shortest item is the \_\_\_\_\_.

19.



- (a) Ribbon A is \_\_\_\_\_ in. long.
- (b) Ribbon B is \_\_\_\_\_ in. long.
- (c) Ribbon C is \_\_\_\_\_ in. long.
- (d) Ribbon D is \_\_\_\_\_ in. long.
- (e) Ribbon \_\_\_\_\_ is the longest.
- (f) Ribbon \_\_\_\_\_ is the shortest.
- (g) Ribbon C is \_\_\_\_\_ in. longer than Ribbon A.
- (h) Ribbon D is 3 in. shorter than Ribbon \_\_\_\_\_.

**Fill in each blank with the correct answer.**

20.  $38 \text{ in.} + 78 \text{ in.} = \underline{\hspace{2cm}} \text{ in.}$

21.  $125 \text{ cm} - 89 \text{ cm} = \underline{\hspace{2cm}} \text{ cm}$

22.  $236 \text{ yd.} + 279 \text{ yd.} = \underline{\hspace{2cm}} \text{ yd.}$

23.  $468 \text{ cm} - 318 \text{ cm} = \underline{\hspace{2cm}} \text{ cm}$

24.  $200 \text{ yd.} - 65 \text{ yd.} = \underline{\hspace{2cm}} \text{ yd.}$

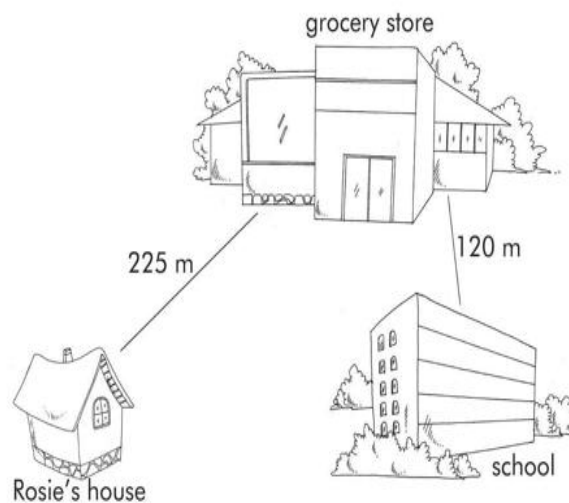
25.  $399 \text{ m} + 121 \text{ m} = \underline{\hspace{2cm}} \text{ m}$

**Solve the following story problems. Show your work in the space below. Draw the appropriate models.**

26. Miles sewed 278 in. of curtains on Monday. He sewed 516 in. of curtains on Tuesday. Find the total length of curtains Miles sewed on both days.

The total length of curtains Miles sewed on both days was \_\_\_\_\_ in.

27.



After school, Rosie goes to the grocery store to buy some milk before going home. How far does she travel?

She travels \_\_\_\_\_ m.

28. The stadium is 350 yd. away from Samir's house. Samir jogs to the stadium and back to his house. How far does he jog?

He jogs \_\_\_\_\_ yd.

29. Kate has a piece of ribbon 26 cm long. June has a piece of ribbon that is 13 cm shorter than Kate's ribbon.

(a) What is the length of June's ribbon?

June's ribbon is \_\_\_\_\_ cm long.

(b) Find the total length of the 2 ribbons.

The total length of the 2 ribbons is \_\_\_\_\_ cm long.

30. Nicholas placed 3 boxes side by side. The length of each box was 10 in. What was the length of the 3 boxes?

The length of the 3 boxes was \_\_\_\_\_ in.

31. Juan placed 8 toothpicks along a straight line. The length of each toothpick was 5 cm. What was the length of 8 toothpicks?

The length of 8 toothpicks was \_\_\_\_\_ cm.

32. Mr. Oliver cuts a rope that is 6 ft. long into 2 equal pieces. What is the length of each piece of rope?

The length of each piece of rope is \_\_\_\_\_ ft.

33. Leo tears a strip of paper that is 27 cm long into equal pieces. Each piece of paper measures 3 cm. How many pieces of paper does Leo have?

Leo has \_\_\_\_\_ pieces of paper.

34. The length of a piece of string is 32 in. Gabrielle cuts the string into equal pieces. Each piece of string measures 4 in. How many pieces of string does Gabrielle have?

Gabrielle has \_\_\_\_\_ pieces of string.

## Unit 9: MASS

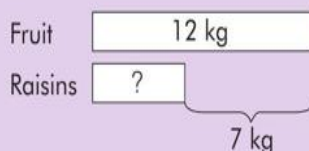
### Examples:

1. What is the mass of the bag of sugar below?



4 oz.

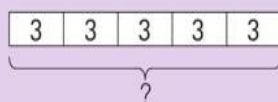
2. The mass of a bag of fruit is 12 kg. The mass of a bag of raisins is 7 kg lighter than the bag of fruit. What is the mass of the bag of raisins?



$$12 - 7 = 5$$

The mass of the bag of raisins is 5 kg.

3. Mrs. Giggs has 5 identical packages. Each package has a mass of 3 lb. What is the mass of all 5 packages?



$$5 \times 3 = 15$$

The mass of all 5 packages is 15 lb.

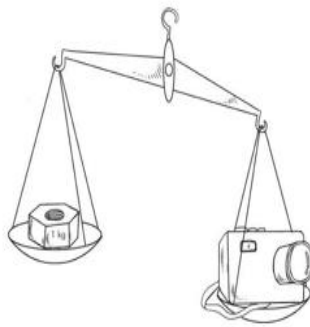
Fill in each blank with *more than* or *less than*.

1.



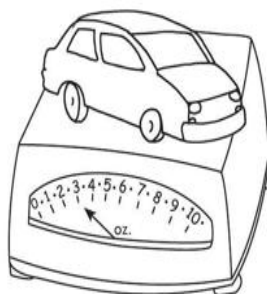
The mass of the toy ship is \_\_\_\_\_ 1 kg.

2.



The mass of the camera is \_\_\_\_\_ 1 kg.

3.



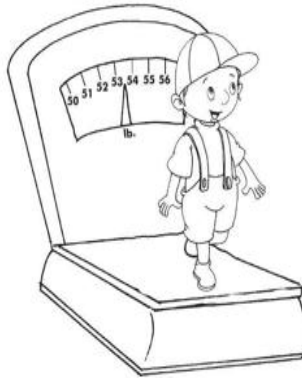
The mass of the toy car is \_\_\_\_\_ 4 oz.

4.



The mass of the oranges is \_\_\_\_\_ 2 kg.

5.



The mass of the boy is \_\_\_\_\_ 50 lb.

**Look at each picture carefully. Write the correct mass on the lines provided.**

6.



\_\_\_\_\_ oz.

7.



\_\_\_\_\_ lb.

8.



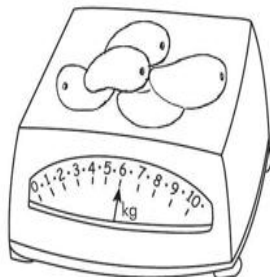
\_\_\_\_\_ oz.

9.



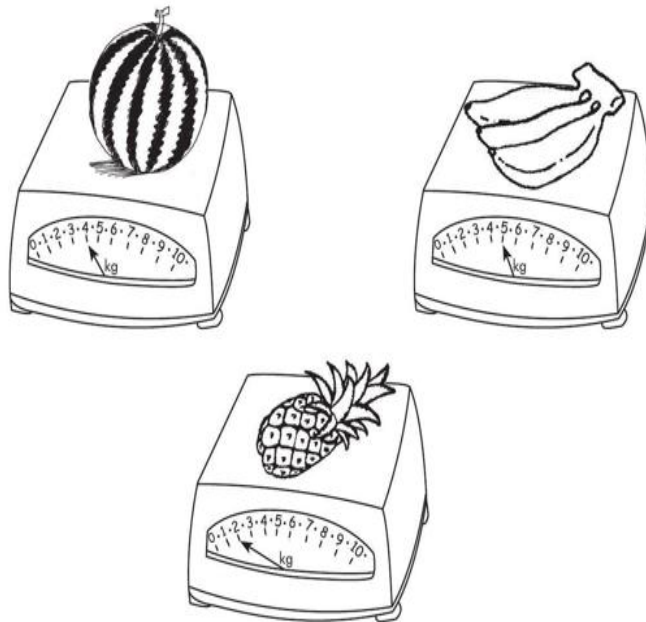
\_\_\_\_\_ kg

10.



\_\_\_\_\_ kg

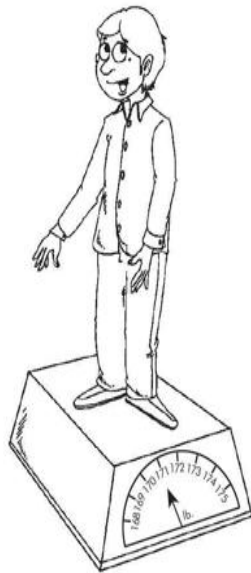
11. Study the pictures below, and fill in each blank with the correct answer.



- (a) The mass of the watermelon is \_\_\_\_\_ kg.
- (b) The mass of the bunch of bananas is \_\_\_\_\_ kg.
- (c) The mass of the pineapple is \_\_\_\_\_ kg.
- (d) The \_\_\_\_\_ is the heaviest.
- (e) The \_\_\_\_\_ is the lightest.
- (f) Arrange the fruit in order. Begin with the heaviest fruit.

---

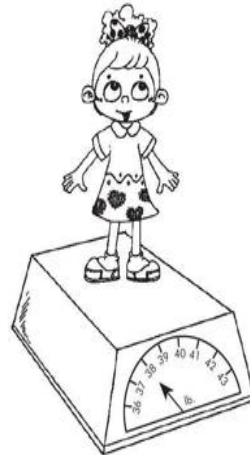
12. Study the pictures below, and fill in each blank with the correct answer.



Alan



Susan



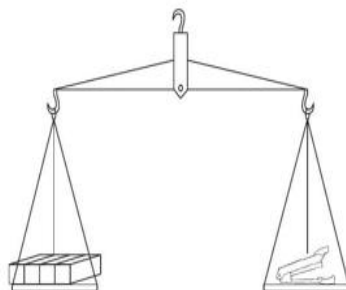
Anne

- (a) Alan has a mass of \_\_\_\_\_ lb.
- (b) Susan has a mass of \_\_\_\_\_ lb.
- (c) Anne has a mass of \_\_\_\_\_ lb.
- (d) \_\_\_\_\_ is the lightest.
- (e) \_\_\_\_\_ is the heaviest.
- (f) Arrange them in order. Begin with the lightest mass.

\_\_\_\_\_

Look at each picture carefully. Fill in each blank with the correct answer.

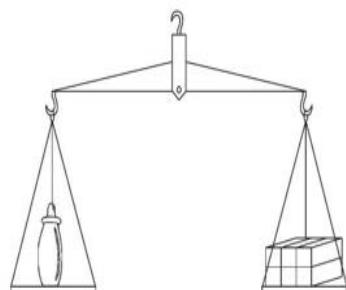
13.



The mass of each  is 1 g.

The stapler is \_\_\_\_\_ g.

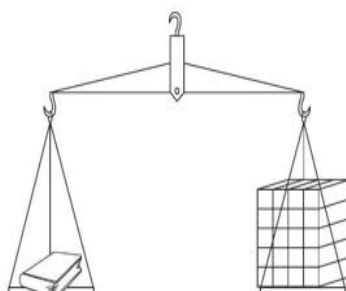
14.



The mass of each  is 1 oz.

The bottle is \_\_\_\_\_ oz.

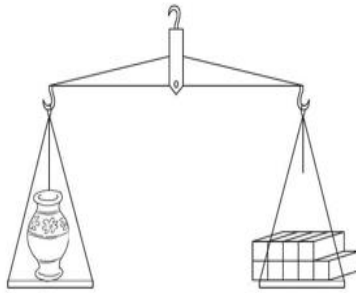
15.



The mass of each  is 1 g.

The dictionary is \_\_\_\_\_ g.

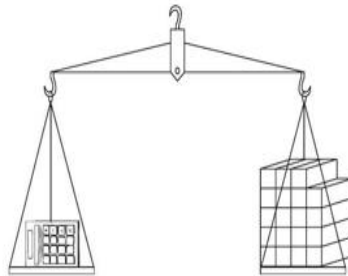
16.



The mass of each  is 1 oz.

The toy vase is \_\_\_\_\_ oz.

17.

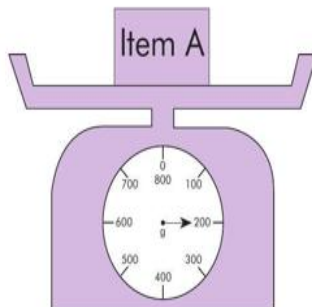


The mass of each  is 1 g.

The calculator is \_\_\_\_\_ g.

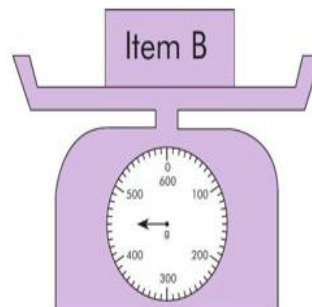
**Look at the following kitchen scales. Fill in each blank with the correct answer. Include the unit in your answer.**

18.



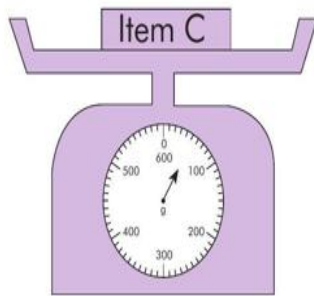
\_\_\_\_\_

19.



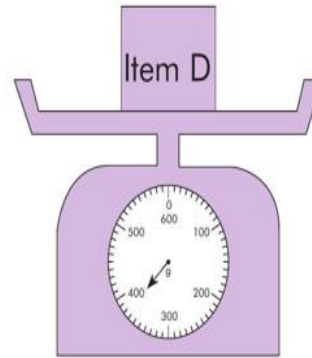
\_\_\_\_\_

20.



\_\_\_\_\_

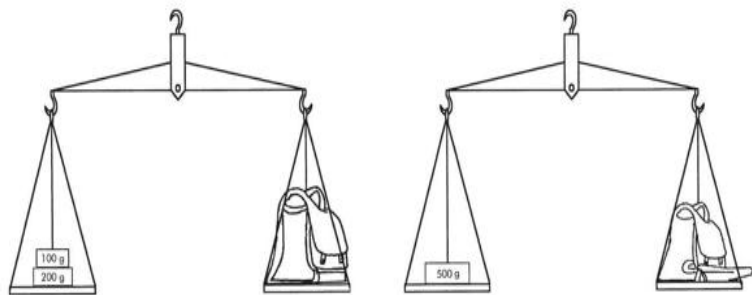
21.



\_\_\_\_\_

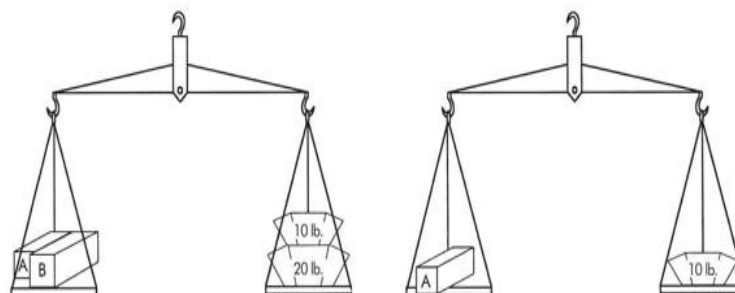
Fill in each blank with the correct answer. Include the unit in your answer.

22.



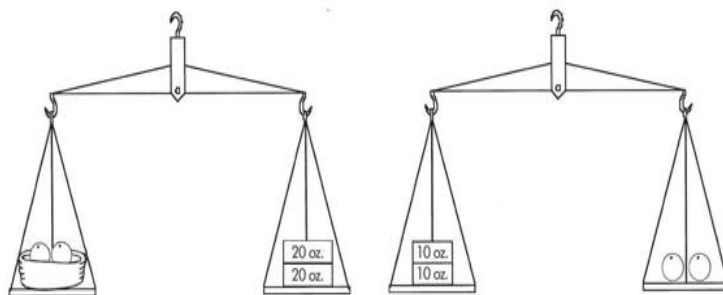
The umbrella has a mass of \_\_\_\_\_.

23.



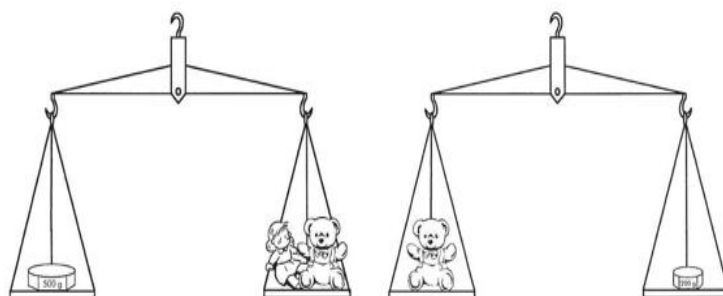
Box B has a mass of \_\_\_\_\_.

24.



- (a) The basket of oranges has a mass of \_\_\_\_\_.
- (b) The oranges have a mass of \_\_\_\_\_.
- (c) The basket has a mass of \_\_\_\_\_.

25.



- (a) The teddy bear has a mass of \_\_\_\_\_.
- (b) The teddy bear and the doll have a mass of \_\_\_\_\_.
- (c) The doll has a mass of \_\_\_\_\_.

26. Sam has a pet at home. Fill in each blank with the correct answer, and match the letters to the numbers in the boxes below. The first one has been done for you. Find out what pet Sam has at home.

(a)  $14 \text{ kg} + 15 \text{ kg} =$ 

|       |   |
|-------|---|
| 29 kg | M |
|-------|---|

(b)  $20 \text{ oz.} + 15 \text{ oz.} =$ 

|  |   |
|--|---|
|  | R |
|--|---|

(c)  $360 \text{ g} + 250 \text{ g} =$ 

|  |   |
|--|---|
|  | A |
|--|---|

(d)  $170 \text{ lb.} + 360 \text{ lb.} =$ 

|  |   |
|--|---|
|  | S |
|--|---|

(e)  $415 \text{ g} + 235 \text{ g} =$ 

|  |   |
|--|---|
|  | E |
|--|---|

(f)  $509 \text{ lb.} + 137 \text{ lb.} =$ 

|  |   |
|--|---|
|  | T |
|--|---|

(g)  $816 \text{ g} + 45 \text{ g} =$ 

|  |   |
|--|---|
|  | H |
|--|---|

|                                                                                                                                       |                                                                                                                                       |                                                                                                                                       |                                                                                                                                       |                                                                                                                                       |                                                                                                                                       |                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> | <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> | <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;">M</div> | <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> | <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> | <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> | <div style="border: 1px solid black; width: 40px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> |
| 861                                                                                                                                   | 610                                                                                                                                   | 29                                                                                                                                    | 530                                                                                                                                   | 646                                                                                                                                   | 650                                                                                                                                   | 35                                                                                                                                    |

27. Adam's birthday is coming soon. Fill in each blank with the correct answer, and match the letters to the numbers to find out what Adam wants for his birthday.

(a)  $585 \text{ oz.} - 232 \text{ oz.} =$ 

|  |   |
|--|---|
|  | S |
|--|---|

(b)  $616 \text{ kg} - 307 \text{ kg} =$ 

|  |   |
|--|---|
|  | Z |
|--|---|

(c)  $900 \text{ lb.} - 450 \text{ lb.} =$ 

|  |   |
|--|---|
|  | U |
|--|---|

(d)  $369 \text{ kg} - 180 \text{ kg} =$ 

|  |   |
|--|---|
|  | L |
|--|---|

(e)  $838 \text{ lb.} - 639 \text{ lb.} =$ 

|  |   |
|--|---|
|  | E |
|--|---|

(f)  $620 \text{ g} - 505 \text{ g} =$ 

|  |   |
|--|---|
|  | P |
|--|---|

(g)  $246 \text{ oz.} - 97 \text{ oz.} =$ 

|  |   |
|--|---|
|  | Z |
|--|---|

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |
| 115 | 450 | 309 | 149 | 189 | 199 | 353 |

**Solve the following story problems. Show your work in the space below. Draw the appropriate models.**

28. Aliyah uses 50 kg of flour, 14 kg of sugar, and 13 kg of butter to bake 10 cakes. How many kilograms of ingredients does she use altogether?

She uses \_\_\_\_\_ kg of ingredients altogether.

29. Aidan has a mass of 43 lb. Tom is 10 lb. heavier than Aidan. What is Tom's mass?

Tom's mass is \_\_\_\_\_ lb.

30. A contractor uses 83 kg of cement and sand to build a wall. If he uses 27 kg of sand, how much cement does he use?

He uses \_\_\_\_\_ kg of cement.

31. Angelo's family eats 13 oz. of rice every week. Noah's family eats 4 oz. less of rice. How much rice does Noah's family eat every week?

Noah's family eats \_\_\_\_\_ oz. of rice every week.

32. Kelly bought 380 g of meat. She then bought some fish. If the total mass of these 2 items was 945 g, how many grams of fish did she buy?

She bought \_\_\_\_\_ g of fish.

33. Aunt Rebecca bought 3 bags of tomatoes. Each bag had a mass of 2 lb. What was the total mass of the 3 bags of tomatoes?

The total mass of the 3 bags of tomatoes was \_\_\_\_\_ lb.

34. Colin bought 20 kg of flour. Each bag of flour had a mass of 5 kg. How many bags of flour did Colin buy?

Colin bought \_\_\_\_\_ bags of flour.

35. Priscilla has 10 plums. Each plum has a mass of 4 oz. What is the total mass of the 10 plums?

The total mass of the 10 plums is \_\_\_\_\_ oz.

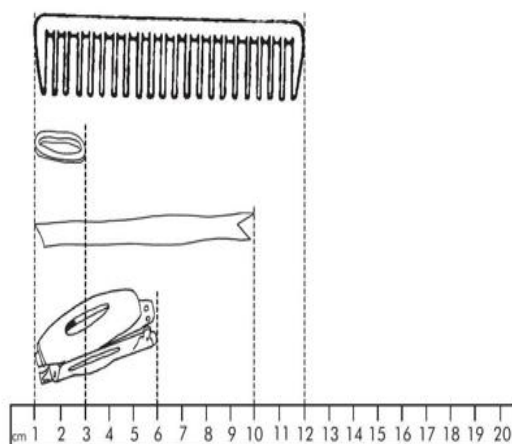
36. Mom bought 12 kg of strawberries. She divided the strawberries equally into 4 bags. What was the mass of each bag?

The mass of each bag of strawberries was \_\_\_\_\_ kg.

## REVIEW 4

Fill in each blank with the correct answer.

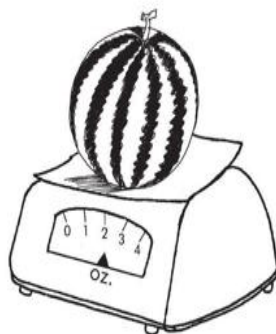
1.



- The hair clip is \_\_\_\_\_ cm long.
- The ribbon is \_\_\_\_\_ cm long.
- The comb is \_\_\_\_\_ cm long.
- The rubber band is \_\_\_\_\_ cm long.
- The ribbon is shorter than the comb by \_\_\_\_\_ cm.
- The hair clip is longer than the rubber band by \_\_\_\_\_ cm.
- The total length of the hair clip and the comb is \_\_\_\_\_ cm.
- Arrange the items in order. Begin with the shortest.

---

2.



The mass of the watermelon is \_\_\_\_\_ oz.

3. Which line is the shortest?

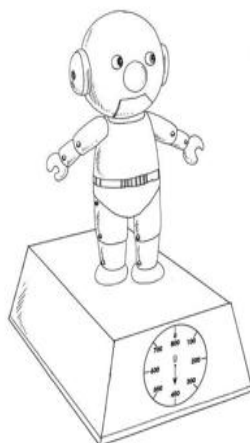
A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

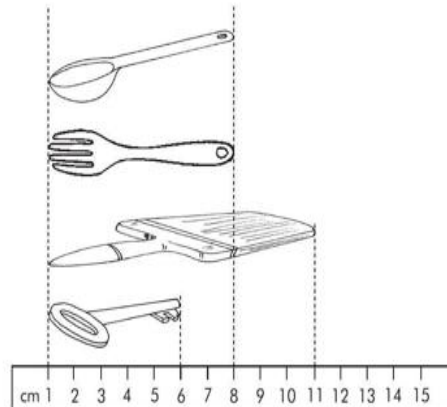
Line \_\_\_\_\_ is the shortest.

4.



The mass of the toy robot is \_\_\_\_\_ g.

5.



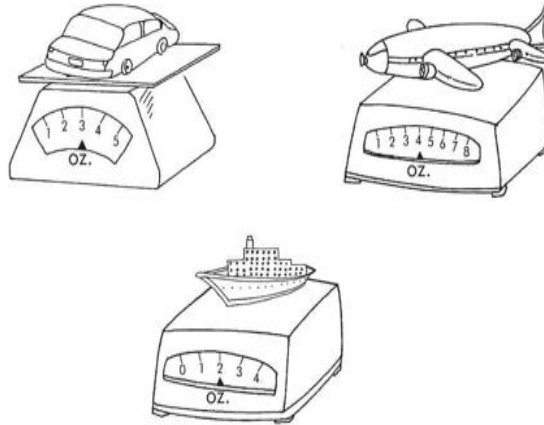
- The key is \_\_\_\_\_ cm long.
  - The paintbrush is \_\_\_\_\_ cm long.
  - The spoon is \_\_\_\_\_ cm long.
  - The fork is \_\_\_\_\_ cm long.
  - The key is shorter than the fork by \_\_\_\_\_ cm.
  - The paintbrush is longer than the spoon by \_\_\_\_\_ cm.
  - The \_\_\_\_\_ and \_\_\_\_\_ have the same length.
  - Arrange the items in order. Begin with the longest.
- 

6.



The mass of the cat is \_\_\_\_\_ lb.

7.



- (a) The mass of the toy car is \_\_\_\_\_.
- (b) The mass of the toy plane is \_\_\_\_\_.
- (c) The mass of the toy ship is \_\_\_\_\_.
- (d) The \_\_\_\_\_ is the heaviest.
- (e) The \_\_\_\_\_ is the lightest.

8. Which line is the longest?

A \_\_\_\_\_  
B \_\_\_\_\_  
C \_\_\_\_\_

Line \_\_\_\_\_ is the longest.

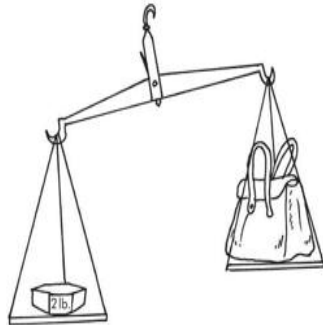
Fill in each blank with *more than* or *less than*.

9.



The bag of rice is \_\_\_\_\_ 3 lb.

10.



The purse is \_\_\_\_\_ 2 lb.

Fill in each blank with the correct answer.

11.  $40 \text{ yd.} + 68 \text{ yd.} = \text{_____ yd.}$

12.  $435 \text{ in.} - 79 \text{ in.} = \text{_____ in.}$

13.  $616 \text{ in.} - 327 \text{ in.} = \text{_____ in.}$

14.  $125 \text{ ft.} + 225 \text{ ft.} = \text{_____ ft.}$

15.  $609 \text{ yd.} + 163 \text{ yd.} = \text{_____ yd.}$

**Solve the following story problems. Show your work in the space below. Draw the appropriate models.**

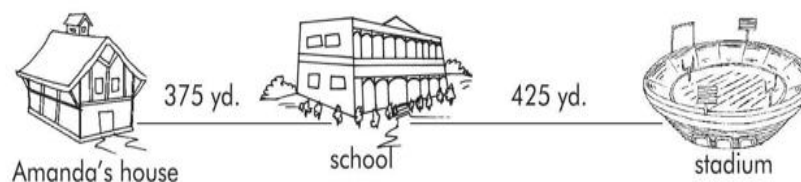
16.



How much farther is David's house from the shopping center than from the supermarket?

David's house is \_\_\_\_\_ m farther from the shopping center than from the supermarket.

17. Amanda jogs from her house to the stadium every day. Her jogging route is shown below.



How far does Amanda jog from her house to the stadium?

Amanda jogs \_\_\_\_\_ yd. from her house to the stadium.

18. Kenya came back from a trip. She brought along 2 pieces of luggage that weighed 8 lb. each. Find the total mass of her luggage.

The total mass of her luggage was \_\_\_\_\_ lb.

19. Jonathan bought some cherries. Each cherry had a mass of 3 g. The total mass of the cherries was 15 g. How many cherries did he buy?

He bought \_\_\_\_\_ cherries.

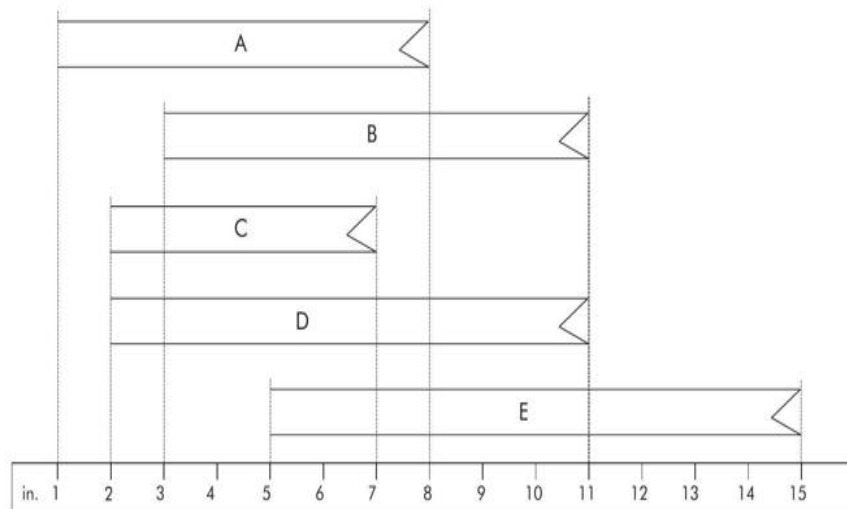
20. Su-Lin placed 5 rulers side by side. Each ruler had a length of 10 cm. What was the length of the 5 rulers?

The length of the 5 rulers was \_\_\_\_\_ cm.

## MID-REVIEW

Fill in each blank with the correct answer.

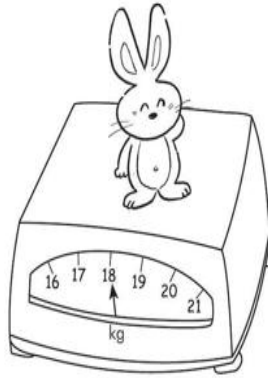
1.



- (a) Ribbon B is \_\_\_\_\_ in. long.
- (b) Ribbon C is \_\_\_\_\_ in. long.
- (c) Ribbon D is \_\_\_\_\_ in. long.
- (d) Ribbon E is \_\_\_\_\_ in. long.
- (e) The total length of ribbons A and C is \_\_\_\_\_ in.
- (f) Arrange the ribbons in order. Begin with the longest.

\_\_\_\_\_

2.



The mass of the rabbit is \_\_\_\_\_ kg.

3. Write the number in words on the line.

647 \_\_\_\_\_

4. Arrange the following numbers in order. Begin with the smallest.

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| 415 | 303 | 540 | 405 | 330 |
|-----|-----|-----|-----|-----|

\_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

5. The product of 3 and 9 is \_\_\_\_\_.

6. The sum of 237 and 508 is \_\_\_\_\_.

7. The difference between 717 and 169 is \_\_\_\_\_.

8. 10 more than 590 is \_\_\_\_\_.

9. 120 is 10 less than \_\_\_\_\_.

10. Write 2 multiplication and division sentences using the pictures below.

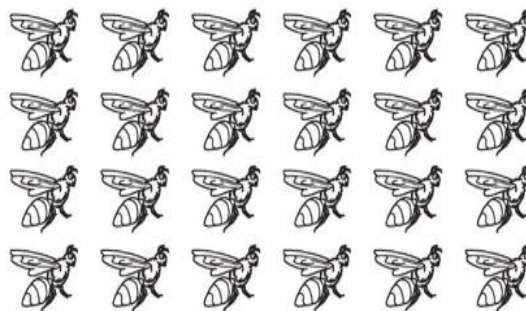


$$\begin{array}{cc} \underline{\quad} \times \underline{\quad} = \underline{\quad} & \underline{\quad} \times \underline{\quad} = \underline{\quad} \\ \underline{\quad} \div \underline{\quad} = \underline{\quad} & \underline{\quad} \div \underline{\quad} = \underline{\quad} \end{array}$$

11. Complete the number pattern.

660, \_\_\_\_\_, 700, 720, \_\_\_\_\_

12. Divide 24 bees into 4 equal groups.



$$24 \div \underline{\quad} = \underline{\quad}$$

There are \_\_\_\_\_ bees in each group.



16. Emily used 185 cm of cloth to sew some cushion covers. She used 275 cm of cloth to sew blankets. How much cloth did she use altogether?

\_\_\_\_\_

17. Michael has 35 baseball cards. He gives an equal number of cards to 5 friends. How many cards does each friend get?

\_\_\_\_\_

18. Mei baked 460 dog biscuits on Friday. She baked 150 fewer biscuits on Saturday.

(a) How many dog biscuits did she bake on Saturday?

\_\_\_\_\_

(b) How many dog biscuits did she bake altogether?

\_\_\_\_\_

19. Imani plants 3 rows of cacti in her garden. There are 7 cacti in each row. How many cacti does she plant altogether?

\_\_\_\_\_

20. Vivian walks 150 yd. from her house to a store. She then walks another 180 yd. to a playground. How far does Vivian walk in all?

\_\_\_\_\_

**Solve the following story problems. Show your work in the space below. Draw the appropriate models.**

21. Dakota has 5 kiwi fruits. Each kiwi has a mass of 10 g. What is the total mass of the 5 kiwis?
22. Mrs. Coleman collected 32 pages of homework from a group of students. Each student turned in 4 pages. How many students did Mrs. Coleman collect the pages from?

23. Hannah receives a daily allowance of \$2. How much money does she receive from Monday to Friday?
24. 3 girls shared a piece of cloth equally. The total length of the piece of cloth was 9 yd. What was the length of cloth received by each girl?
25. A carpenter needs 4 days to build a bookshelf. How many days does he need to make 3 bookshelves?

## CHALLENGE QUESTIONS

**Solve the following problems on another sheet of paper.**

1. Guess the 3-digit number based on the hints below.
  - The first digit is greater than 7 and is an even number.
  - The second digit is smaller than 7 and is the smallest odd number.
  - The third digit is the difference between the first and the second digits.
2. Parker bought a skateboard for \$126. He paid the cashier the exact amount with 10 bills. Identify the bills he used to pay for the skateboard.
3. Jessica has twice as many apples as Deepak. Deepak has 3 times as many apples as Gina. Gina has 2 apples. Draw a model, and find the number of apples Jessica has.
4. Mr. Schneider's mass is 2 digits. The first digit is 3 times the second digit. Both digits are odd numbers, and his mass is greater than 35 kg. What is Mr. Schneider's mass?
5. The sum of 2 facing pages of an opened dictionary can be divided by 3. The result of the division is 3. What are the 2 facing pages?
6. Carlos, Tyler, and Danny each have a ruler. Tyler's ruler is longer than Carlos's ruler but shorter than Danny's ruler. Who has the shortest ruler?
7. Jenna had a box of marbles. Her mother gave her twice the number of marbles Jenna already had. Her father gave her 3 times the number of marbles her mother gave her. Jenna had 27 marbles in the end. How many marbles did she have in the beginning?

8. Simon had a bill. He used it to buy a shirt for \$20 and received the change in four bills of the same amount. What was the bill that Simon had in the beginning?
9. The sum of 3 consecutive numbers, or 3 numbers in a row, is 9. What are the 3 numbers?
10. The sum of 2 facing pages of an opened comic book can be divided by 3. The result is 7. What are the 2 facing pages?
11. Mia is heavier than Dante but lighter than Sierra. Who is the heaviest among the 3 children?

## 2B LEARNING OUTCOMES

### Unit 10 Mental Calculations

Students should be able to

- ✱ add 2 numbers mentally.
- ✱ subtract 2 numbers mentally.

### Unit 11 Money

Students should be able to

- ✱ count and write money in dollars and cents.
- ✱ convert dollars to cents or cents to dollars.
- ✱ compare money.
- ✱ solve story problems related to money.

### Review 5

This review tests students' understanding of Units 10 & 11.

### Unit 12 Fractions

Students should be able to

- ✱ understand that fractions are equal parts.
- ✱ identify fractions from  $\frac{1}{2}$  to  $\frac{1}{12}$ .
- ✱ compare and arrange fractions.
- ✱ add and subtract like fractions.
- ✱ solve story problems related to fractions.

### Unit 13 Time

Students should be able to

- ✱ read and write the correct time.
- ✱ use A.M., P.M., hr., and min. correctly.
- ✱ draw hour and minute hands correctly.
- ✱ find the time half an hour or one hour before/after a certain time.

### Review 6

This review tests students' understanding of Units 12 & 13.

### Unit 14 Volume

Students should be able to

- ✱ compare volumes of liquid.
- ✱ read and measure volumes of liquid in liters and gallons.
- ✱ add, subtract, multiply, and divide volume.
- ✱ solve story problems related to volume.

### Unit 15 Graphs

Students should be able to

- ✱ read and understand picture graphs with scales.
- ✱ create picture graphs with scales.
- ✱ use picture graphs to solve problems.

### Review 7

This review tests students' understanding of Units 14 & 15.

### Unit 16 Lines and Surfaces

Students should be able to

- ✱ recognize straight lines and curves.
- ✱ recognize objects with only flat surfaces.
- ✱ count the number of flat surfaces an object has.

### Unit 17 Shapes and Patterns

Students should be able to

- ✱ recognize squares, rectangles, circles, semicircles, quarter circles, and triangles in 2-D objects.
- ✱ recognize cubes, cuboids, cones, and cylinders in 3-D objects.
- ✱ draw 2-D shapes on dot or square grids.
- ✱ complete a pattern.

### Review 8

This review tests students' understanding of Units 16 & 17.

### Final Review

This review is an excellent assessment of students' understanding of all the topics in this book.

# FORMULA SHEET

## Unit 10 Mental Calculations

Addition and subtraction can be done mentally by rounding numbers and breaking up numbers.

Mental addition by rounding numbers

- ① Round one of the addends, A, to the nearest ten.
- ② Mentally add the rounded number to the other addend, B.
- ③ Subtract the difference between the rounded number and addend A from the sum.

Mental addition by breaking up numbers

When one of the addends, A, is less than 10,

- ① break up the other addend, B, into ones and tens/hundreds.

Example: Break up 364 into 4 and 360.

- ② Add the ones to get a sum.
- ③ Add the sum to the remaining tens/hundreds to get the final answer.

Apply the same method to an addend that is less than 100 or 1,000.

Mental subtraction by rounding numbers

- ① Round one of the subtrahends, A, to the nearest ten.
- ② Mentally subtract the rounded number from the other subtrahend, B.
- ③ Add the difference between the rounded number and subtrahend A to the result in ②.

Mental subtraction by breaking up numbers

When one of the subtrahends, A, is less than 10,

- ① break up the other subtrahend, B, into ones and tens/hundreds.

Example: Break up 526 into 6 and 520.

- ② Subtract the ones to get a result.
  - ③ Add the result in ② to the remaining tens/hundreds.
- Apply the same method to a subtrahend that is less than 100 or 1,000.

## Unit 11 Money

Writing dollars and cents

\$1 = 100¢

When writing dollars and cents, place a dollar sign (\$) in the front and a decimal point (.) to separate them.

Example: \$8.95

When writing dollars without any cents, add 2 zeros after the decimal point.

Example: \$8.00

When writing cents without any dollars, add a zero before the decimal point.

Example: \$0.95

Converting dollars to cents

- Remove the dollar sign (\$) and the decimal point (.).

- Place the cent symbol (¢) after the number.

Example: \$20.50 = 2,050¢

Converting cents to dollars

- Remove the cent symbol (¢).
- Place the dollar sign (\$) before the number.
- Place the decimal point (.) just before the last 2 digits.

Example: 3,000¢ = \$30.00

Comparing money

- Compare the dollars of the 2 amounts first.
- If the dollars are the same, compare the cents.

## Unit 12 Fractions

In a fraction, each part must be equal.

Examples of a fraction:  $\frac{1}{2}$ ,  $\frac{2}{5}$ , and  $\frac{8}{8}$ .

To make a whole, make sure all denominators are common. All numerators add up to equal the denominator.

Example:  $\frac{2}{8}$  and  $\frac{6}{8}$  make a whole.

Comparing and arranging fractions in order

- When denominators of all fractions are the same, compare their numerators.

The largest fraction has the highest value in the numerator.

Example:  $\frac{4}{5}$ ,  $\frac{2}{5}$ ,  $\frac{1}{5}$   
largest

- When numerators of all fractions are the same, compare their denominators.

The largest fraction has the smallest value in the denominator.

Example:  $\frac{1}{4}$ ,  $\frac{1}{8}$ ,  $\frac{1}{12}$   
largest

This table can be useful when comparing fractions.

|               |  |                |  |
|---------------|--|----------------|--|
| $\frac{1}{2}$ |  | $\frac{1}{8}$  |  |
| $\frac{1}{3}$ |  | $\frac{1}{9}$  |  |
| $\frac{1}{4}$ |  | $\frac{1}{10}$ |  |
| $\frac{1}{5}$ |  | $\frac{1}{11}$ |  |
| $\frac{1}{6}$ |  | $\frac{1}{12}$ |  |
| $\frac{1}{7}$ |  |                |  |

### Adding and subtracting fractions

- Make sure denominators of all fractions are the same.
- Add and subtract the numerators accordingly.

When one of the subtrahends is a whole, convert the whole into a fraction before subtracting.

### **Unit 13 Time**

There are 24 hours in a day.

1 hour = 60 minutes

Numbers 1 to 12 can be seen on the face of a clock, as well as the hour hand and minute hand.

The minute hand is longer than the hour hand.

When the minute hand moves from one number to another, 5 minutes has passed.

When the hour hand moves from one number to another, 1 hour has passed.

The units of measurement for time are hour (hr.) and minute (min.).

### Writing and reading time

We read the time on the clock as three twenty-five.

We write it as 3:25.



The abbreviation A.M. means before noon and P.M. means after noon.

Hence A.M. is used to talk about time between 12 midnight and 11:59 in the morning.

P.M. is used to talk about time between 12 noon and 11:59 at night.

We can find the time before/after a certain time if the duration is given.

Examples: 10:00 A.M. is 1 hr. before 11:00 A.M.  
7:00 P.M. is 1 hr. after 6:00 P.M.  
9:30 A.M. is 30 min. before 10:00 A.M.  
5:30 P.M. is 30 min. after 5:00 P.M.

### **Unit 14 Volume**

The volume of water in a container is the amount of water the container holds.

### Comparing volume

- When the water level in 2 identical containers is the same, use the words *as much as*.
- When the water level in one container is higher than that of the other container, use the words *more than*.
- When the water level in one container is lower than that of the other container, use the words *less than*.

The unit of measurement for volume is liter (L) or gallon (gal.).

### **Unit 15 Graphs**

Symbols represent the items in picture graphs.

Note the scales used in picture graphs. The symbol can stand for 1 item, 2 items, or even more.

Picture graphs help organize information for easy interpretation and problem solving.

### **Unit 16 Lines and Surfaces**

Examples of straight lines:



Examples of curves:



Examples of items with only flat surfaces:



### **Unit 17 Shapes and Patterns**

#### 2-dimensional shapes and objects

Examples of different shapes:



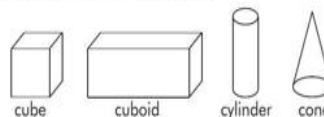
These shapes can be used to create a 2-dimensional figure.



An example of a 2-dimensional figure that is made of 2 quarter circles, a square, and a triangle.

#### 3-dimensional objects

Examples of 3-dimensional objects:



These shapes can be used to create a 3-dimensional figure.



An example of a 3-dimensional figure that is made of 2 cubes and a cylinder.

#### Patterns

Shapes can be used to create a repeated pattern.

An example of a repeated pattern using different shapes:



An example of a repeated pattern using different sizes:



An example of a repeated pattern using different colors:



## Unit 10: MENTAL CALCULATIONS

### Examples:

1. What is  $69 + 7$ ?

$$69 + 10 = 79$$

$$79 - 3 = 76$$

$$69 + 7 = \underline{76}$$

5. What is  $95 - 9$ ?

$$95 - 10 = 85$$

$$85 + 1 = 86$$

$$95 - 9 = \underline{86}$$

2. What is  $364 + 5$ ?

$$364 = 360 + 4$$

$$4 + 5 = 9$$

$$360 + 9 = 369$$

$$364 + 5 = \underline{369}$$

6. What is  $438 - 60$ ?

$$438 - 100 = 338$$

$$338 + 40 = 378$$

$$438 - 60 = \underline{378}$$

3. What is  $158 + 30$ ?

$$158 = 108 + 50$$

$$50 + 30 = 80$$

$$108 + 80 = 188$$

$$158 + 30 = \underline{188}$$

7. What is  $247 - 40$ ?

$$247 = 207 + 40$$

$$40 - 40 = 0$$

$$207 + 0 = 207$$

$$247 - 40 = \underline{207}$$

4. What is  $592 + 400$ ?

$$592 = 500 + 92$$

$$500 + 400 = 900$$

$$900 + 92 = 992$$

$$592 + 400 = \underline{992}$$

8. What is  $689 - 300$ ?

$$689 = 600 + 89$$

$$600 - 300 = 300$$

$$300 + 89 = 389$$

$$689 - 300 = \underline{389}$$

**Solve the following addition problems mentally.**

1.  $64 + 8 = \underline{\hspace{2cm}}$

2.  $89 + 7 = \underline{\hspace{2cm}}$

3.  $26 + 5 = \underline{\hspace{2cm}}$

4.  $18 + 9 = \underline{\hspace{2cm}}$

5.  $57 + 6 = \underline{\hspace{2cm}}$

6.  $45 + 8 = \underline{\hspace{2cm}}$

7.  $37 + 5 = \underline{\hspace{2cm}}$

8.  $78 + 8 = \underline{\hspace{2cm}}$

9.  $94 + 9 = \underline{\hspace{2cm}}$

10.  $56 + 7 = \underline{\hspace{2cm}}$

11.  $127 + 5 = \underline{\hspace{2cm}}$

12.  $764 + 9 = \underline{\hspace{2cm}}$

13.  $262 + 6 = \underline{\hspace{2cm}}$

14.  $948 + 8 = \underline{\hspace{2cm}}$

15.  $435 + 7 = \underline{\hspace{2cm}}$

16.  $584 + 6 = \underline{\hspace{2cm}}$

17.  $623 + 9 = \underline{\hspace{2cm}}$

18.  $806 + 9 = \underline{\hspace{2cm}}$

19.  $366 + 5 = \underline{\hspace{2cm}}$

20.  $119 + 6 = \underline{\hspace{2cm}}$

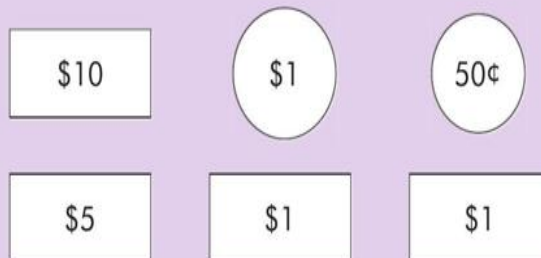
21.  $513 + 6 = \underline{\hspace{2cm}}$
22.  $836 + 20 = \underline{\hspace{2cm}}$
23.  $723 + 80 = \underline{\hspace{2cm}}$
24.  $190 + 70 = \underline{\hspace{2cm}}$
25.  $428 + 40 = \underline{\hspace{2cm}}$
26.  $762 + 70 = \underline{\hspace{2cm}}$
27.  $503 + 90 = \underline{\hspace{2cm}}$
28.  $869 + 80 = \underline{\hspace{2cm}}$
29.  $623 + 60 = \underline{\hspace{2cm}}$
30.  $770 + 200 = \underline{\hspace{2cm}}$
31.  $323 + 600 = \underline{\hspace{2cm}}$
32.  $165 + 800 = \underline{\hspace{2cm}}$
33.  $248 + 500 = \underline{\hspace{2cm}}$
34.  $657 + 300 = \underline{\hspace{2cm}}$
35.  $195 + 700 = \underline{\hspace{2cm}}$
36.  $108 + 200 = \underline{\hspace{2cm}}$
37.  $588 + 400 = \underline{\hspace{2cm}}$
38.  $645 + 100 = \underline{\hspace{2cm}}$
39.  $199 + 600 = \underline{\hspace{2cm}}$
40.  $756 + 200 = \underline{\hspace{2cm}}$

61.  $415 - 30 = \underline{\hspace{2cm}}$
62.  $338 - 90 = \underline{\hspace{2cm}}$
63.  $587 - 60 = \underline{\hspace{2cm}}$
64.  $860 - 50 = \underline{\hspace{2cm}}$
65.  $609 - 10 = \underline{\hspace{2cm}}$
66.  $281 - 20 = \underline{\hspace{2cm}}$
67.  $758 - 40 = \underline{\hspace{2cm}}$
68.  $495 - 70 = \underline{\hspace{2cm}}$
69.  $164 - 80 = \underline{\hspace{2cm}}$
70.  $626 - 60 = \underline{\hspace{2cm}}$
71.  $758 - 300 = \underline{\hspace{2cm}}$
72.  $834 - 600 = \underline{\hspace{2cm}}$
73.  $905 - 800 = \underline{\hspace{2cm}}$
74.  $631 - 500 = \underline{\hspace{2cm}}$
75.  $978 - 900 = \underline{\hspace{2cm}}$
76.  $505 - 100 = \underline{\hspace{2cm}}$
77.  $784 - 400 = \underline{\hspace{2cm}}$
78.  $435 - 200 = \underline{\hspace{2cm}}$
79.  $876 - 700 = \underline{\hspace{2cm}}$
80.  $980 - 800 = \underline{\hspace{2cm}}$

## Unit 11: MONEY

### Examples:

1. Andy receives a sum of money from his parents.  
How much does Andy receive?



Andy receives \$18.50.

2. Change \$3.95 to cents.

$$\text{\$3.95} = \text{395¢}$$

3. Change 1,000¢ to dollars.

$$1,000¢ = \text{\$10.00}$$

4. Natalie spent \$12.60 on food.  
Sammi spent \$15.60, and Omar spent \$20.90.  
Who spent the most money?

Among the 3 amounts, \$20.90 is the greatest.

Omar spent the most money.

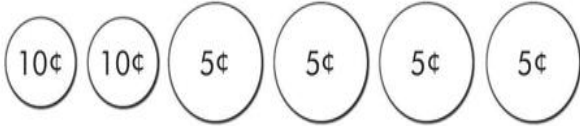
1. Write the correct amount of money in numerals.

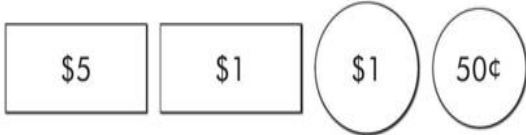
- (a) ten dollars \_\_\_\_\_
- (b) two dollars and fifty cents \_\_\_\_\_
- (c) forty-four dollars and forty cents \_\_\_\_\_
- (d) thirty-nine dollars and eighty-five cents \_\_\_\_\_
- (e) sixty-seven dollars and ninety cents \_\_\_\_\_
- (f) fifty dollars and five cents \_\_\_\_\_
- (g) nineteen dollars and seventy cents \_\_\_\_\_
- (h) eighty-seven cents \_\_\_\_\_
- (i) twelve dollars and fifteen cents \_\_\_\_\_
- (j) twenty dollars and twenty-five cents \_\_\_\_\_

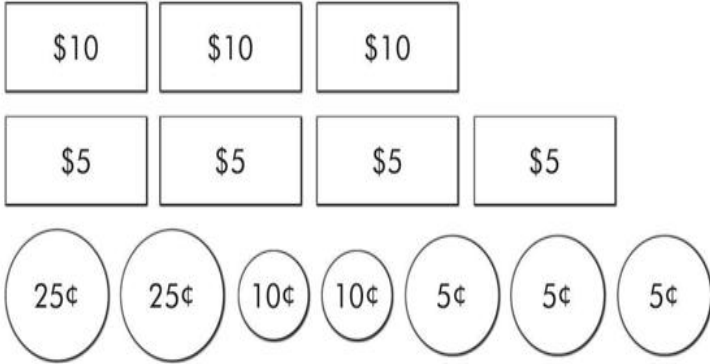
2. Write the amount of money in words.

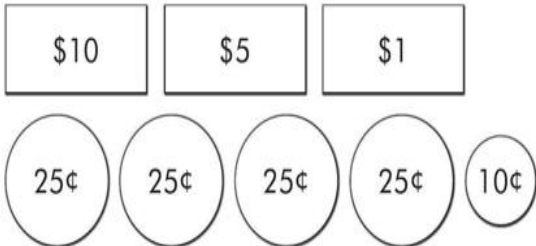
- (a) \$12.30 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (b) \$45.45 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (c) \$67.05 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (d) \$15.55 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (e) \$ 7.90 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (f) \$11.80 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (g) \$36.60 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (h) \$20.15 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (i) \$59.95 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents
- (j) \$70.70 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents

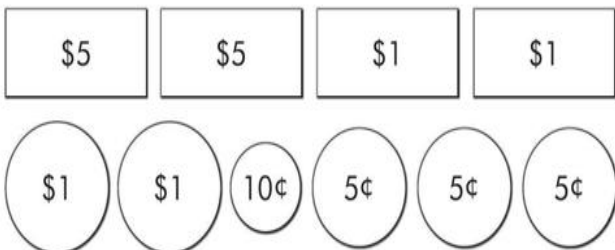
Write the correct amount of money on the lines provided.

3.  \_\_\_\_\_ ¢

4.  \$ \_\_\_\_\_

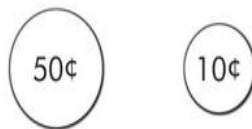
5.  \$ \_\_\_\_\_

6.  \$ \_\_\_\_\_

7.  \$ \_\_\_\_\_

The amount of money each item costs is shown below. Write the correct amount of money on the lines provided.

8.



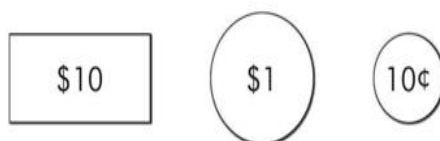
An eraser costs \_\_\_\_\_.

9.



A book costs \_\_\_\_\_.

10.



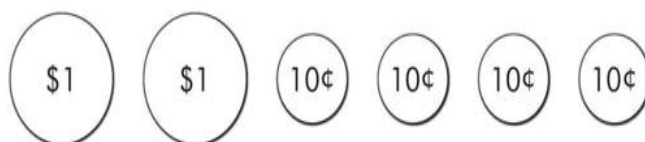
A bag of birdseed costs \_\_\_\_\_.

11.



A set of colored pencils costs \_\_\_\_\_.

12.



A notebook costs \_\_\_\_\_.

13. Write the following amounts in cents.

- |                       |                        |
|-----------------------|------------------------|
| (a) \$2.25 = _____ ¢  | (f) \$89.05 = _____ ¢  |
| (b) \$10.50 = _____ ¢ | (g) \$100.30 = _____ ¢ |
| (c) \$35.75 = _____ ¢ | (h) \$40.40 = _____ ¢  |
| (d) \$50.05 = _____ ¢ | (i) \$15.95 = _____ ¢  |
| (e) \$27.35 = _____ ¢ | (j) \$20.55 = _____ ¢  |

14. Write the following amounts in dollars.

- |                      |                      |
|----------------------|----------------------|
| (a) 416¢ = \$_____   | (f) 960¢ = \$_____   |
| (b) 1,875¢ = \$_____ | (g) 1,005¢ = \$_____ |
| (c) 3,005¢ = \$_____ | (h) 7,600¢ = \$_____ |
| (d) 805¢ = \$_____   | (i) 18¢ = \$_____    |
| (e) 1,750¢ = \$_____ | (j) 59¢ = \$_____    |

**Fill in each blank with the correct answer.**

15. Christopher spends \$26.50 in a week.

George spends \$32.50 in a week.

- (a) \$\_\_\_\_\_ is more than \$\_\_\_\_\_.
- (b) \_\_\_\_\_ spends more money.

16. Marcos saves \$55.85 in a month.

Noelle saves \$45.90 in a month.

- (a) \$\_\_\_\_\_ is less than \$\_\_\_\_\_.
- (b) \_\_\_\_\_ saves more money.

17. Mrs. Adams has \$67.80.

Mrs. Morales has \$65.90.

(a) \$\_\_\_\_\_ is more than \$\_\_\_\_\_.

(b) \$\_\_\_\_\_ is less than \$\_\_\_\_\_.

(c) \_\_\_\_\_ has less money.

18. Samira's weekly allowance is \$26.50.

Kate's weekly allowance is \$19.60.

Lucy's weekly allowance is \$23.25.

(a) \$\_\_\_\_\_ is the smallest amount of money.

(b) \$\_\_\_\_\_ is the largest amount of money.

(c) \_\_\_\_\_ has the most weekly allowance.

(d) \_\_\_\_\_ has the least weekly allowance.

**Solve the following story problems. Show your work in the space below.**

19. A book costs \$3. Malia bought 6 books. How much did she pay for the books?

She paid \_\_\_\_\_ for the books.

20. A peach costs 55¢. A banana costs 25¢ less than the peach. What is the total cost of the peach and the banana?

The total cost of the peach and the banana is \_\_\_\_\_.

21. Aunt Rose earns \$350 in a week. Uncle James earns \$190 more per week than Aunt Rose. How much money do both of them earn in a week?

Both of them earn \_\_\_\_\_ in a week.

22. Gina bought a doll for \$29. She gave the cashier \$100. How much change did she receive?

She received \_\_\_\_\_ in change.

23. Mr. Singh gives his son \$40 every 10 days. If his son spends an equal amount of money every day, how much money does he spend per day?

He spends \_\_\_\_\_ per day.

## REVIEW 5

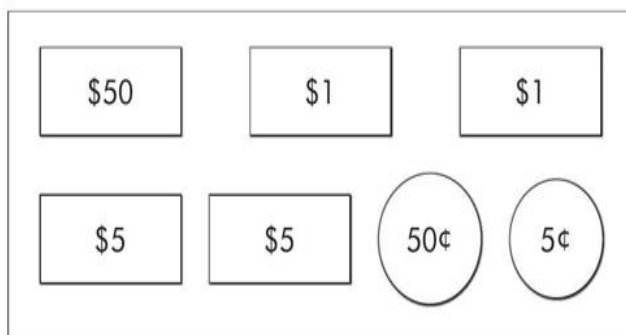
Fill in each blank with the correct answer.

1. Write ninety-nine dollars and nine cents in numerals. \_\_\_\_\_

2. Add 814 and 90 mentally. \_\_\_\_\_

3. \$55.15 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents

4. How much money is shown below?



5. Write \$62.85 in cents. \_\_\_\_\_

6. Add 604 and 200 mentally. \_\_\_\_\_

7. Grace has \$30.05. Jerome has \$35.55.

(a) \$\_\_\_\_\_ is more than \$\_\_\_\_\_.

(b) \_\_\_\_\_ has more money.

8. Subtract 9 from 546 mentally. \_\_\_\_\_

9. Write 3,840¢ in dollars. \_\_\_\_\_

10. Subtract 60 from 743 mentally. \_\_\_\_\_

11.

\$10

\$10

\$5

\$5

\$5

\$1

10¢

A purse costs \_\_\_\_\_.

12. Uncle Sam pays \$45 for a bouquet of roses.  
Uncle Rafael pays \$42 for a bouquet of sunflowers.

(a) \$\_\_\_\_\_ is less than \$\_\_\_\_\_.

(b) \_\_\_\_\_ pays more for the flowers.

13. \$100.10 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents

14. Add 5 and 686 mentally. \_\_\_\_\_

15. Subtract 400 from 712 mentally. \_\_\_\_\_

**Solve the following story problems. Show your work in the space below.**

16. Emma saves \$2 each day. How much money does she save in a week?

Emma saves \_\_\_\_\_ in a week.

17. Samantha bought a calculator. She gave the cashier \$50 and received \$2 in change. How much did the calculator cost?

The calculator cost \_\_\_\_\_.

18. Vera bought a dress for \$49. She bought a shirt for \$35. How much money did she spend in all?

She spent \_\_\_\_\_ in all.

19. Uncle Ronald gives some money to his 3 children. Each child receives \$7. How much money does Uncle Ronald give to his children in all?

Uncle Ronald gives \_\_\_\_\_ to his children in all.

20. Natasha pays \$60 for 6 identical towels. How much does each towel cost?

Each towel costs \_\_\_\_\_.

## Unit 12: FRACTIONS

### Examples:

1. Arrange  $\frac{3}{7}$ ,  $\frac{1}{7}$ , and  $\frac{5}{7}$  in order, beginning with the smallest.

$$\frac{1}{7}, \frac{3}{7}, \frac{5}{7}$$

smallest

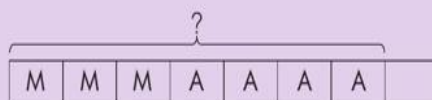
2. Add  $\frac{2}{9}$  and  $\frac{5}{9}$ .

$$\frac{2}{9} + \frac{5}{9} = \frac{7}{9}$$

3. What is  $1 - \frac{5}{6}$ ?

$$1 - \frac{5}{6} = \frac{6}{6} - \frac{5}{6} = \frac{1}{6}$$

4. Lexi used  $\frac{3}{8}$  of the butter in the morning. She used  $\frac{4}{8}$  of the butter in the afternoon. What fraction of the butter did Lexi use altogether?



M: Morning  
A: Afternoon

$$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$$

Lexi used  $\frac{7}{8}$  of the butter altogether.

Put a check mark (✓) in the box if the shape is divided into equal parts.

1.



3.



2.

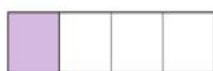


4.



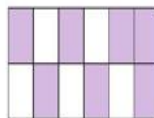
What fraction of each figure is shaded? Write the correct answer on the line.

5.



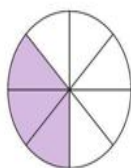
\_\_\_\_\_

8.



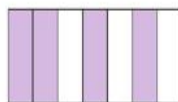
\_\_\_\_\_

6.



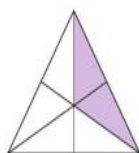
\_\_\_\_\_

9.



\_\_\_\_\_

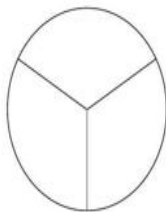
7.



\_\_\_\_\_

Shade the parts of each figure to show the correct fractions.

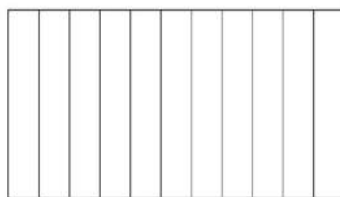
10.  $\frac{2}{3}$



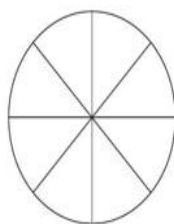
11.  $\frac{4}{9}$



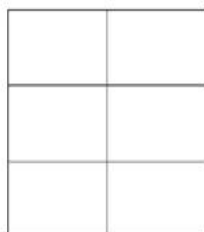
12.  $\frac{5}{11}$



13.  $\frac{6}{8}$

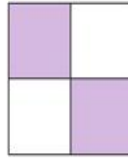


14.  $\frac{5}{6}$



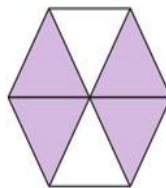
Fill in each blank with the correct answer.

15.



- (a) \_\_\_\_\_ parts of the figure are shaded.
- (b) There are \_\_\_\_\_ equal parts altogether.
- (c) \_\_\_\_\_ of the figure is shaded.
- (d) \_\_\_\_\_ of the figure is not shaded.

16.



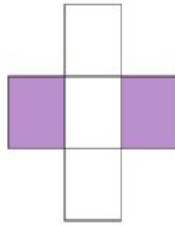
- (a) \_\_\_\_\_ parts of the figure are shaded.
- (b) There are \_\_\_\_\_ equal parts altogether.
- (c) The fraction of the figure that is shaded is \_\_\_\_\_.
- (d) The fraction of the figure that is not shaded is \_\_\_\_\_.

17.



- (a) \_\_\_\_\_ out of \_\_\_\_\_ equal parts are shaded.
- (b) \_\_\_\_\_ of the figure is shaded.

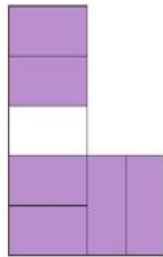
18.



(a) \_\_\_\_\_ out of \_\_\_\_\_ equal parts are shaded.

(b) \_\_\_\_\_ of the figure is shaded.

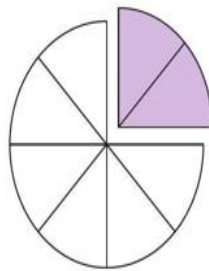
19.



(a) \_\_\_\_\_ out of \_\_\_\_\_ equal parts are shaded.

(b) \_\_\_\_\_ of the figure is shaded.

20. Lisa cuts a cake into 8 equal parts. Her brother eats 2 parts.



(a) \_\_\_\_\_ parts of the cake are left.

(b) The fraction of the cake that her brother eats is \_\_\_\_\_.

(c) The fraction of the cake left is \_\_\_\_\_.

(d) \_\_\_\_\_ and \_\_\_\_\_ make a whole.

21. Hiroshi cuts a loaf of bread into 5 equal parts. He eats 3 parts.



- (a) \_\_\_\_\_ parts of the bread are left.
- (b) The fraction of the bread that Hiroshi eats is \_\_\_\_\_.
- (c) The fraction of the bread left is \_\_\_\_\_.
- (d) \_\_\_\_\_ and \_\_\_\_\_ make a whole.

**Fill in each blank with the correct answer.**

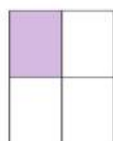
22. \_\_\_\_\_ and  $\frac{1}{3}$  make a whole.
23. \_\_\_\_\_ and  $\frac{1}{2}$  make a whole.
24.  $\frac{3}{7}$  and \_\_\_\_\_ make a whole.
25. \_\_\_\_\_ and  $\frac{4}{11}$  make a whole.
26. \_\_\_\_\_ and  $\frac{9}{12}$  make a whole.
27.  $\frac{2}{5}$  and \_\_\_\_\_ make a whole.
28.  $\frac{6}{8}$  and \_\_\_\_\_ make a whole.
29.  $\frac{3}{9}$  and \_\_\_\_\_ make a whole.
30. \_\_\_\_\_ and  $\frac{1}{4}$  make a whole.
31. \_\_\_\_\_ and  $\frac{1}{6}$  make a whole.

**Circle the larger fraction in each pair.**

32.



$$\frac{1}{2}$$

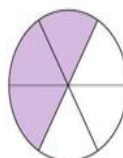


$$\frac{1}{4}$$

33.



$$\frac{3}{8}$$



$$\frac{3}{6}$$

34.



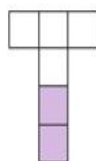
$$\frac{5}{7}$$



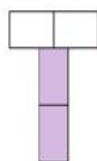
$$\frac{5}{9}$$

**Circle the smaller fraction in each pair.**

35.

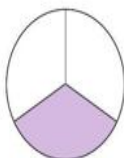


$$\frac{2}{6}$$



$$\frac{2}{4}$$

36.



$$\frac{1}{3}$$



$$\frac{1}{5}$$

37.



$$\frac{6}{10}$$



$$\frac{6}{12}$$

**Color the correct part(s) of each figure to show the fractions. Then, circle the largest fraction in each set.**

38.

$$\frac{1}{8}$$



$$\frac{3}{8}$$

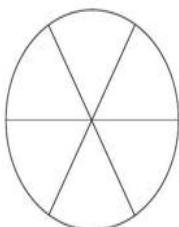


$$\frac{5}{8}$$

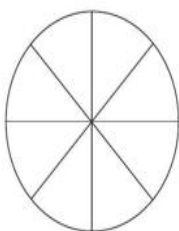


39.

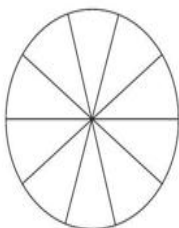
$$\frac{2}{6}$$



$$\frac{2}{8}$$

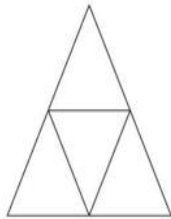


$$\frac{2}{10}$$

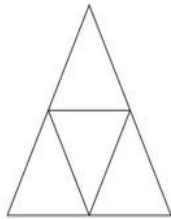


40.

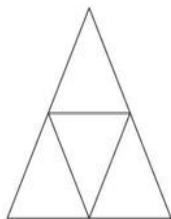
$$\frac{1}{4}$$



$$\frac{2}{4}$$



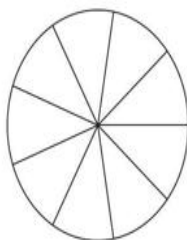
$$\frac{3}{4}$$



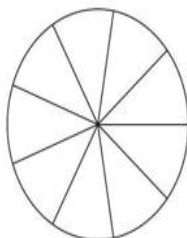
**Color the part(s) of each figure to show the fractions. Then, circle the smaller fraction in each pair.**

41.

$$\frac{3}{9}$$

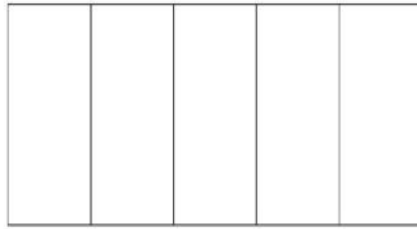


$$\frac{2}{9}$$

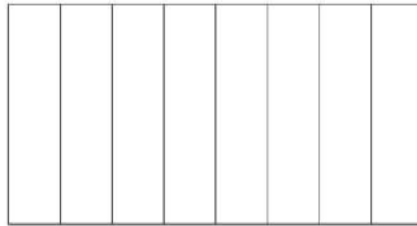


42.

$$\frac{4}{5}$$

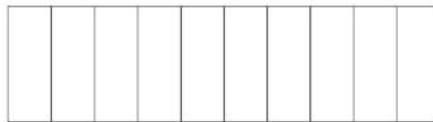


$$\frac{4}{8}$$



43.

$$\frac{8}{10}$$



$$\frac{6}{10}$$



**Circle the smaller fraction in each pair.**

44.

$$\frac{1}{5}$$

$$\frac{1}{3}$$

45.

$$\frac{2}{6}$$

$$\frac{2}{8}$$

46.

$$\frac{4}{8}$$

$$\frac{3}{8}$$

**Circle the larger fraction in each pair.**

47.  $\frac{2}{3}$   $\frac{1}{3}$

48.  $\frac{4}{8}$   $\frac{4}{5}$

49.  $\frac{7}{10}$   $\frac{7}{11}$

**Circle the largest fraction in each set.**

50.  $\frac{3}{5}$   $\frac{4}{5}$   $\frac{5}{5}$

51.  $\frac{1}{10}$   $\frac{1}{11}$   $\frac{1}{12}$

52.  $\frac{5}{7}$   $\frac{5}{8}$   $\frac{5}{9}$

**Circle the smallest fraction in each set.**

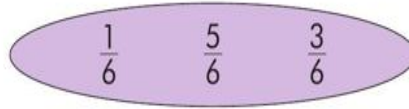
53.  $\frac{1}{3}$   $\frac{1}{4}$   $\frac{1}{5}$

54.  $\frac{7}{7}$   $\frac{4}{7}$   $\frac{5}{7}$

55.  $\frac{5}{9}$   $\frac{6}{9}$   $\frac{3}{9}$

**Arrange the fractions in each set. Begin with the largest.**

56.

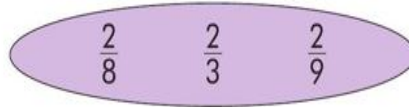


\_\_\_\_\_ /  
largest

\_\_\_\_\_ /

\_\_\_\_\_

57.

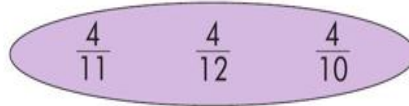


\_\_\_\_\_ /  
largest

\_\_\_\_\_ /

\_\_\_\_\_

58.



\_\_\_\_\_ /  
largest

\_\_\_\_\_ /

\_\_\_\_\_

**Arrange the fractions in each set. Begin with the smallest.**

59.

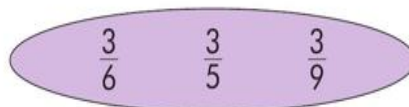


\_\_\_\_\_ /  
smallest

\_\_\_\_\_ /

\_\_\_\_\_

60.

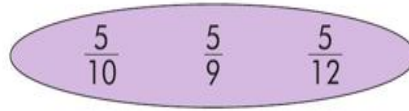


\_\_\_\_\_ /  
smallest

\_\_\_\_\_ /

\_\_\_\_\_

61.



\_\_\_\_\_ /  
smallest

\_\_\_\_\_ /

\_\_\_\_\_

**Add these fractions.**

$$62. \frac{1}{8} + \frac{2}{8} = \underline{\hspace{2cm}}$$

$$66. \frac{1}{9} + \frac{5}{9} + \frac{2}{9} = \underline{\hspace{2cm}}$$

$$63. \frac{1}{10} + \frac{6}{10} = \underline{\hspace{2cm}}$$

$$67. \frac{1}{5} + \frac{2}{5} + \frac{1}{5} = \underline{\hspace{2cm}}$$

$$64. \frac{3}{12} + \frac{7}{12} = \underline{\hspace{2cm}}$$

$$68. \frac{2}{6} + \frac{1}{6} + \frac{1}{6} = \underline{\hspace{2cm}}$$

$$65. \frac{2}{7} + \frac{4}{7} = \underline{\hspace{2cm}}$$

$$69. \frac{2}{11} + \frac{1}{11} + \frac{3}{11} = \underline{\hspace{2cm}}$$

**Subtract these fractions.**

$$70. \frac{3}{4} - \frac{1}{4} = \underline{\hspace{2cm}}$$

$$74. \frac{5}{6} - \frac{1}{6} - \frac{2}{6} = \underline{\hspace{2cm}}$$

$$71. \frac{5}{9} - \frac{3}{9} = \underline{\hspace{2cm}}$$

$$75. \frac{10}{11} - \frac{3}{11} - \frac{4}{11} = \underline{\hspace{2cm}}$$

$$72. \frac{6}{7} - \frac{1}{7} = \underline{\hspace{2cm}}$$

$$76. \frac{6}{8} - \frac{1}{8} - \frac{2}{8} = \underline{\hspace{2cm}}$$

$$73. 1 - \frac{1}{10} = \underline{\hspace{2cm}}$$

$$77. \frac{10}{12} - \frac{2}{12} - \frac{5}{12} = \underline{\hspace{2cm}}$$

**Solve the following story problems. Show your work in the space below.**

78. Benny cuts a loaf of bread into 5 parts. His sister eats 2 pieces of the bread. What fraction of the bread is left?

\_\_\_\_\_ of the bread is left.

79. Mom eats  $\frac{1}{10}$  of a pizza. Dad eats  $\frac{3}{10}$  of the pizza. Kaylee eats  $\frac{1}{10}$  of the pizza. What fraction of the pizza have they eaten?

They have eaten \_\_\_\_\_ of the pizza.

80. Ileana used  $\frac{1}{7}$  of her weekly allowance to buy a pencil case. She used another  $\frac{3}{7}$  of it to buy some drawing materials. What fraction of her weekly allowance did she use?

She used \_\_\_\_\_ of her weekly allowance.

81. Aunt Carol made a pitcher of orange juice. Her children drank  $\frac{3}{8}$  of the orange juice. What fraction of the pitcher of orange juice was left?

\_\_\_\_\_ of the pitcher of orange juice was left.

82.  $\frac{1}{6}$  of the people at a party are children.  $\frac{3}{6}$  of the people are women. The remaining people are men. What fraction of the people at the party are children and women?

\_\_\_\_\_ of the people at the party are children and women.

## Unit 13: TIME

### Examples:

- Write the time shown on the clock.

The time is 6:20.



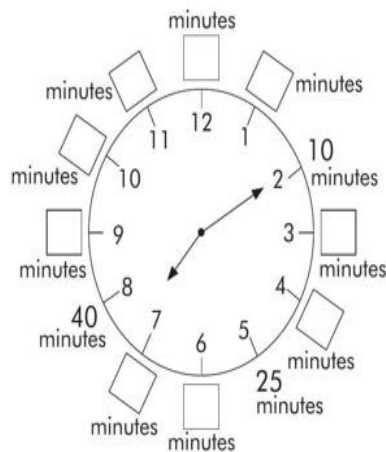
- Kelly eats her lunch 1 hour after noon. Write A.M. or P.M. in the blank.

She eats her lunch at 1:00 P.M.

- Henry took a bus to the zoo at 11:00 A.M. He reached the zoo 30 minutes later. At what time did he reach the zoo?

He reached the zoo at 11:30 A.M.

- Look at the clock below. Fill in each box with the correct answer.



The time shown on the clock is \_\_\_\_\_ A.M.

**What time is it? Write the correct minutes on the lines below.**

2.



\_\_\_\_\_ minutes after 8 o'clock

4.



\_\_\_\_\_ minutes after 6 o'clock

3.



\_\_\_\_\_ minutes after 4 o'clock

5.



\_\_\_\_\_ minutes after 7 o'clock

**Write the correct time on the lines below.**

6.



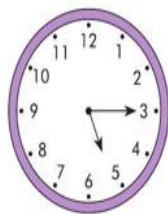
The time is \_\_\_\_\_.

8.



The time is \_\_\_\_\_.

7.



The time is \_\_\_\_\_.

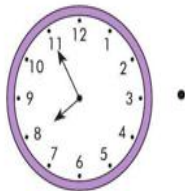
9.



The time is \_\_\_\_\_.

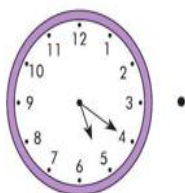
Match each clock to the correct time.

10.



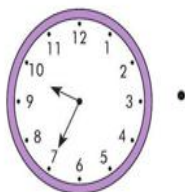
• 3:10

11.



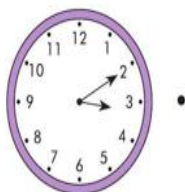
• 5:20

12.



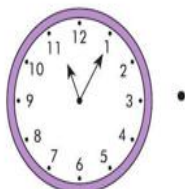
• 9:35

13.



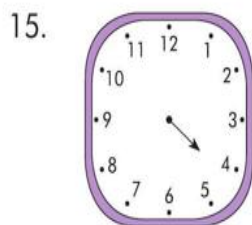
• 11:05

14.

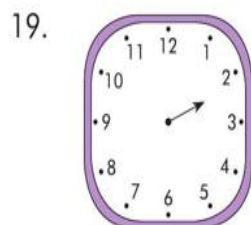


• 7:55

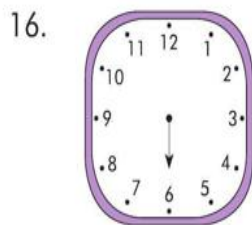
**Draw the minute hand on each clock.**



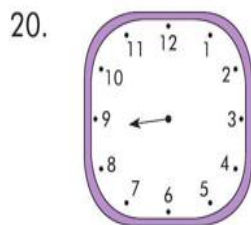
The time is 4:15.



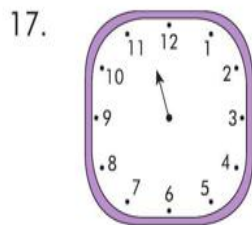
The time is 2:10.



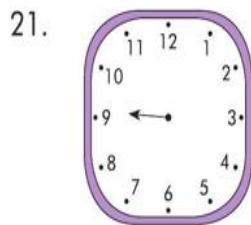
The time is 6:00.



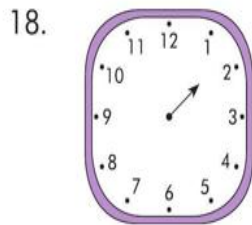
The time is 8:55.



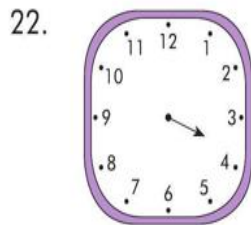
The time is 11:30.



The time is 9:05.

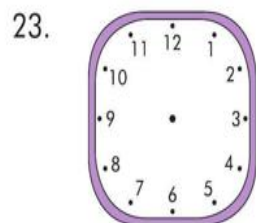


The time is 1:45.

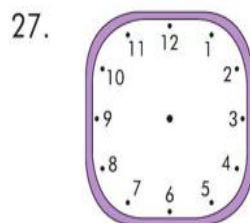


The time is 3:50.

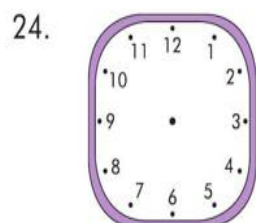
**Read the time, and draw the hour and minute hands on each clock.**



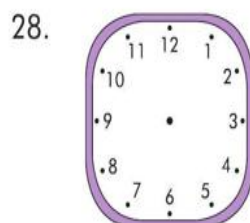
The time is 1:20.



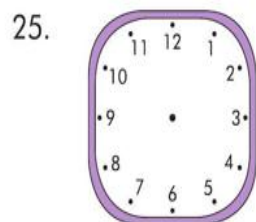
The time is 5:00.



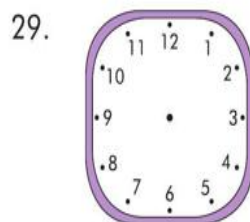
The time is 10:30.



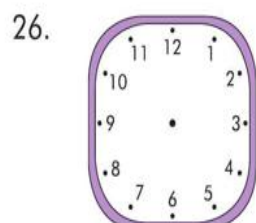
The time is 9:25.



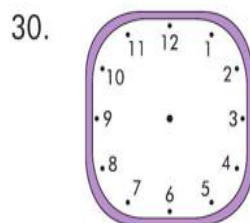
The time is 11:15.



The time is 6:45.



The time is 3:55.



The time is 7:10.

**Fill in each blank with A.M. or P.M.**

31. Pilar eats her breakfast  
at 8:00 \_\_\_\_\_.



32. The class will end at 12:50 \_\_\_\_\_.



33. Claire likes to take her dog for  
a walk after dinner. She usually  
gets home at 9:00 \_\_\_\_\_.



34. Mrs. Thomas goes to the grocery store  
after preparing breakfast. She leaves  
her house at 10:00 \_\_\_\_\_.



35. Braden and his family enjoy watching  
the evening news. The news will  
start at 9:30 \_\_\_\_\_.



Fill in each blank with the correct answer.

36.



\_\_\_\_\_ is 30 min. after \_\_\_\_\_



37.



\_\_\_\_\_ is 30 min. after \_\_\_\_\_



38.



\_\_\_\_\_ is 1 hr. after \_\_\_\_\_



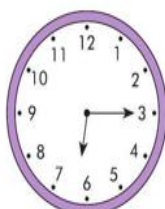
39.



\_\_\_\_\_ is 3 hr. before \_\_\_\_\_



40.



\_\_\_\_\_ is 4 hr. before \_\_\_\_\_



**Draw the time on each clock. Fill in each blank with the correct answer.**

41.



10:30 A.M. is 30 min. before \_\_\_\_\_.

42.



8:00 P.M. is 1 hr. after \_\_\_\_\_.

43.



5:30 A.M. is 30 min. after \_\_\_\_\_.

44.



3:30 P.M. is 30 min. before \_\_\_\_\_.

45.

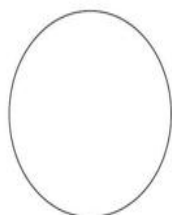


1:00 P.M. is 1 hr. after \_\_\_\_\_.

## REVIEW 6

1. Which of the following are fractions? Put a check mark (✓) in the correct boxes.

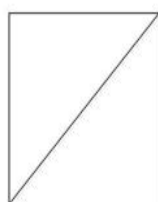
(a)


☐

(c)

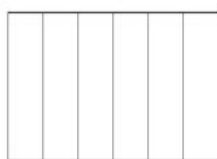

☐

(b)

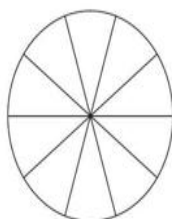

☐

**Shade the parts of each figure to show the fractions.**

2.  $\frac{5}{6}$



3.  $\frac{6}{10}$



Write the correct times on the lines below.

4.



\_\_\_\_\_

6.



\_\_\_\_\_

5.



\_\_\_\_\_

7.



\_\_\_\_\_

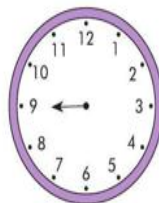
Draw the minute hand on each clock to show the correct time.

8.



3:45

10.



9:00

9.



2:15

11.



6:50

**Arrange the fractions in each set. Begin with the largest.**

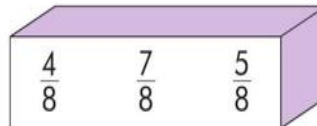
12.



\_\_\_\_\_ /      \_\_\_\_\_ /      \_\_\_\_\_  
largest

**Arrange the fractions in each set. Begin with the smallest.**

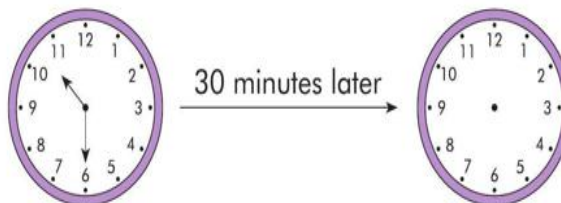
13.



\_\_\_\_\_ /      \_\_\_\_\_ /      \_\_\_\_\_  
smallest

**Draw the time on each clock. Fill in each blank with the correct answer.**

14. Mary left her house at 10:30 A.M. 30 minutes later, she reached her school. At what time did Mary reach her school?



Mary reached her school at \_\_\_\_\_.

15. Leo has a guitar lesson every Saturday. His lesson lasts 1 hour. If his guitar lesson ends at 2:30 P.M., at what time does it start?



His guitar lesson starts at \_\_\_\_\_.

16. All the Grade 1 and 2 students have recess at 9:45 A.M. Recess ends 30 minutes later. At what time does recess end?



Recess ends at \_\_\_\_\_.

**Do the following story problems. Show your work in the space below.**

17. Anton and Jack shared a dish of nachos. If Anton ate  $\frac{1}{2}$  of it, how much did Jack eat?

Jack ate \_\_\_\_\_ of the dish of nachos.

18. Deepak ate  $\frac{2}{6}$  of a melon. John ate  $\frac{3}{6}$  of the melon. What fraction of the melon did they eat?

They ate \_\_\_\_\_ of the melon.

19. Harry poured a glass of milk. He drank  $\frac{4}{7}$  of it. What fraction of the milk was left in the glass?

\_\_\_\_\_ of the milk was left in the glass.

20. Tariq borrows a book from the library. He reads  $\frac{2}{5}$  of it. What fraction of the book does Tariq need to read in order to complete it?

Tariq needs to read \_\_\_\_\_ of the book in order to complete it.

## Unit 14: VOLUME

### Examples:

1.



Cup A



Cup B



Cup C

(a) Which cup contains the most water?

Cup A

(b) Which cup contains the least water?

Cup B

2.



Jug A



Jug B



Jug C

(a) Which jug contains the least water?

Jug B

(b) Which jug contains the most water?

Jug C

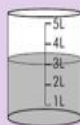
(c) How many fewer flasks of water can Jug A hold than Jug C?

$$9 - 5 = 4$$

(d) How many more flasks of water can Jug C hold than Jug B?

$$9 - 3 = 6$$

3.



How many liters of water does the container hold?

The container holds 3 liters of water.

4. Uncle Norman filled 6 fish tanks with water. Each fish tank contained 4 gallons of water. How many gallons of water did Uncle Norman use to fill the fish tanks?

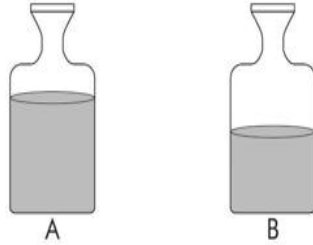


$$6 \times 4 = 24$$

Uncle Norman used 24 gallons of water to fill the fish tanks.

**Fill in each blank with *more* or *less*.**

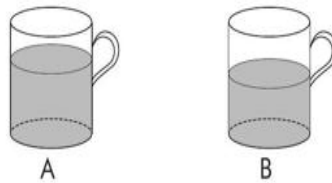
1.



(a) Bottle A contains \_\_\_\_\_ water than Bottle B.

(b) Bottle B contains \_\_\_\_\_ water than Bottle A.

2.

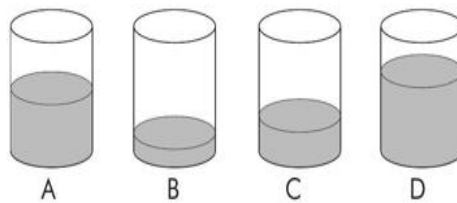


(a) Cup B contains \_\_\_\_\_ water than Cup A.

(b) Cup A contains \_\_\_\_\_ water than Cup B.

**Fill in each blank with the correct answer.**

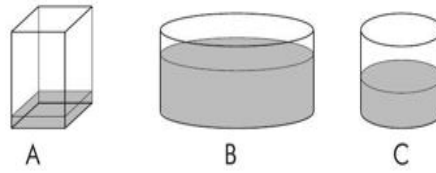
3.



(a) Container \_\_\_\_\_ has the greatest volume of water.

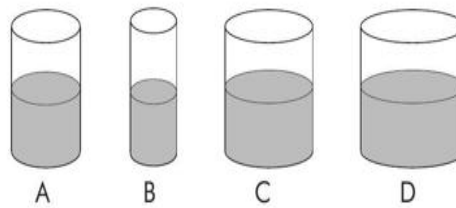
(b) Container \_\_\_\_\_ has the least volume of water.

4.



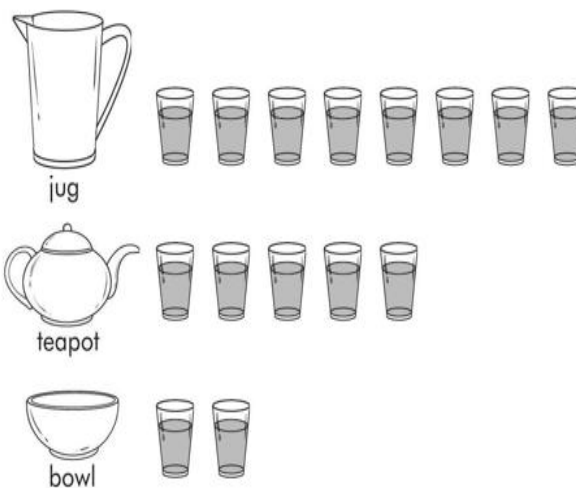
- (a) Container \_\_\_\_\_ has the greatest volume of water.
- (b) Container \_\_\_\_\_ has the least volume of water.

5.



- (a) Container \_\_\_\_\_ has the greatest volume of water.
- (b) Container \_\_\_\_\_ has the least volume of water.

6. Study the pictures carefully. Fill in each blank with the correct answer.

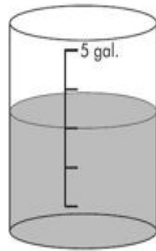


- (a) The \_\_\_\_\_ holds the greatest volume of water.
- (b) The \_\_\_\_\_ holds the least volume of water.

- (c) The teapot holds \_\_\_\_\_ more glasses of water than the bowl.
- (d) The bowl holds \_\_\_\_\_ fewer glasses of water than the jug.

**Write the volume of water in each container on the lines below.**

7.



\_\_\_\_\_ gal. of water

9.



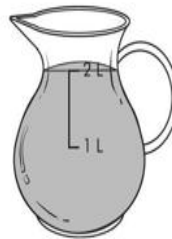
\_\_\_\_\_ oz. of water

8.



\_\_\_\_\_ L of water

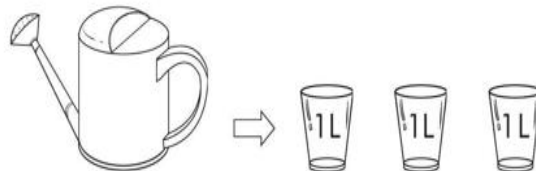
10.



\_\_\_\_\_ L of water

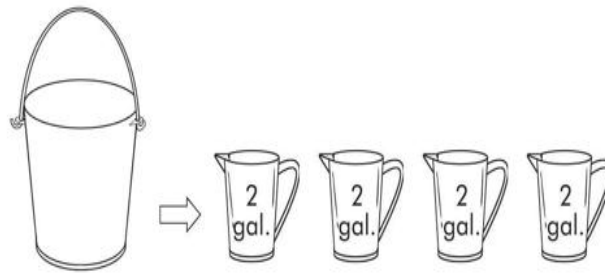
**Look at each picture carefully. Fill in the blanks with the correct answers.**

11.



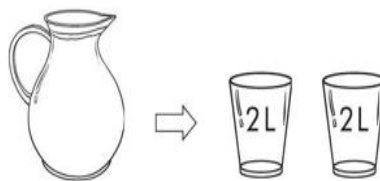
Thomas used \_\_\_\_\_ L of water to water his plants.

12.



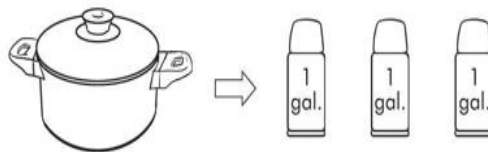
Josefina used \_\_\_\_\_ gal. of water to wash laundry.

13.



Amy makes \_\_\_\_\_ L of iced tea.

14.



Mother makes \_\_\_\_\_ gal. of soup.

**Solve the following story problems. Show your work in the space below.**

15. Lily fills an empty fish tank with 2 buckets of water. Each bucket can hold 2 gal. of water. How many gallons of water are in the fish tank?

There are \_\_\_\_\_ gal. of water in the fish tank.

16. Mrs. Simon prepares 3 L of iced tea. Mrs. Suzuki prepares 5 L of lemonade. How many liters of drinks do they prepare altogether?

They prepare \_\_\_\_\_ L of drinks altogether.

17. Darius fills an empty tank with 4 gal. of water. Jack adds 3 gal. of water. Diego adds another 5 gal. of water. How much water can the tank hold?

The tank can hold \_\_\_\_\_ gal. of water.

18. Ayesha buys 8 L of orange juice. She gives 2 L of juice to Jane. How much orange juice does Ayesha have left?

Ayesha has \_\_\_\_\_ L of orange juice left.

19. Mr. Benson filled his car with 10 gal. of gas on Monday. He filled his car with 20 gal. of gas on Thursday. How many gallons of gas in all did Mr. Benson put in his car?

Mr. Benson put \_\_\_\_\_ gal. of gas in his car in all.

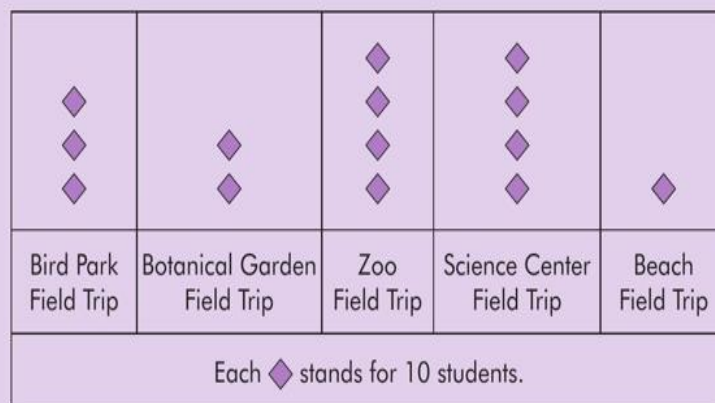
20. Maddy fills an empty container with 16 L of water. She then pours all the water equally into some jugs. Each jug holds 4 L of water. How many jugs does she use?

She uses \_\_\_\_\_ jugs.

## Unit 15: GRAPHS

### Examples:

The graph below shows the number of students in a class who went on different field trips throughout the year.



- (a) How many students went on the zoo field trip?  $4 \times 10 = \underline{40}$
- (b) How many students went on the beach field trip?  $1 \times 10 = \underline{10}$
- (c) How many more students went on the zoo field trip than the bird park field trip?  
 $4 - 3 = 1$   
 $1 \times 10 = \underline{10}$
- (d) How many fewer students went on the beach field trip than the botanical garden field trip?  
 $2 - 1 = 1$   
 $1 \times 10 = \underline{10}$
- (e) How many students went on all the field trips throughout the year?  
 $3 + 2 + 4 + 4 + 1 = 14$   
 $14 \times 10 = \underline{140}$

1. Angelo and Michael went to the zoo and saw these animals.  
They drew a picture graph to show the number of each animal.

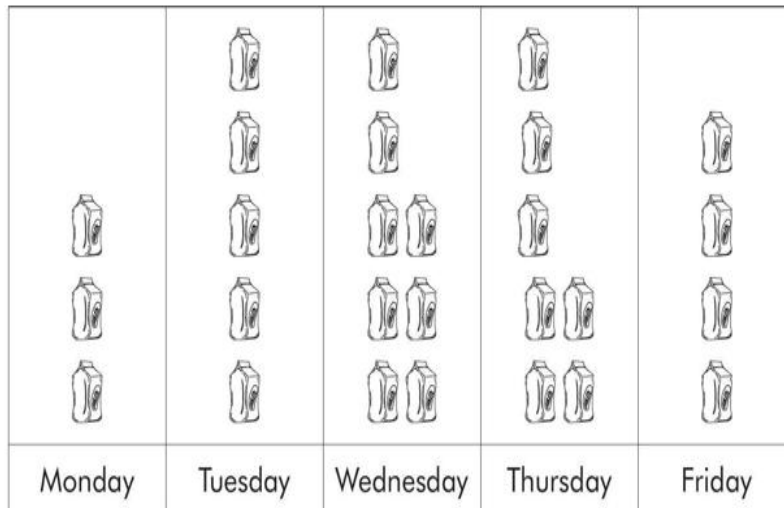
**Animals in the zoo**

|                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monkeys                                                                                                        |       |
| Lions                                                                                                          |                                                                                                                                                                                                                                                                                                                                           |
| Giraffes                                                                                                       |                                                                                                                                                                         |
| Zebras                                                                                                         |                                                                                                                                                                                                                                                          |
| Snakes                                                                                                         |                                                                                                                                                                                                                                                          |
| Each  stands for 4 animals. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

- (a) They saw \_\_\_\_\_ giraffes.
- (b) They saw \_\_\_\_\_ monkeys.
- (c) They saw \_\_\_\_\_ more giraffes than lions.
- (d) They saw \_\_\_\_\_ fewer snakes than monkeys.
- (e) They saw the most \_\_\_\_\_.
- (f) They saw the fewest \_\_\_\_\_.

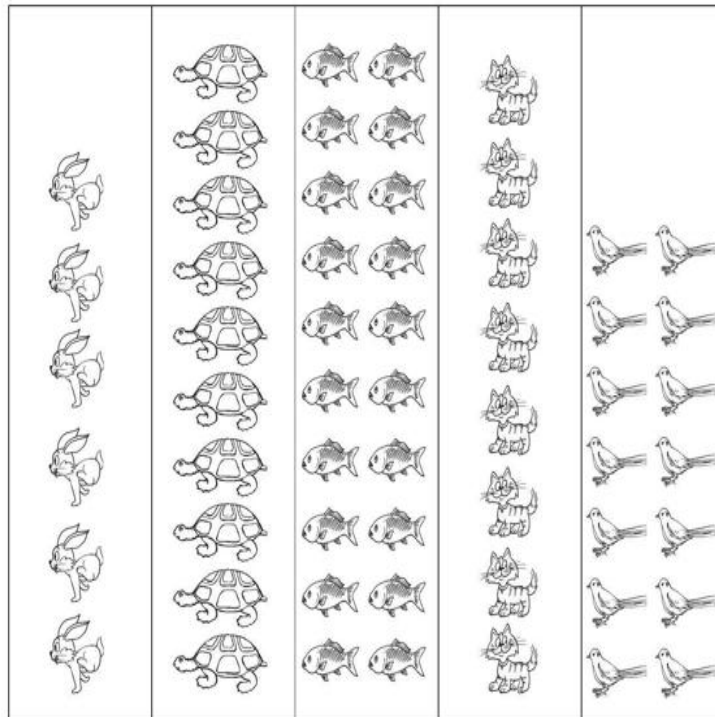
2. Study the picture graph carefully. Fill in each blank with the correct answer.

**Cartons of milk sold in a week**

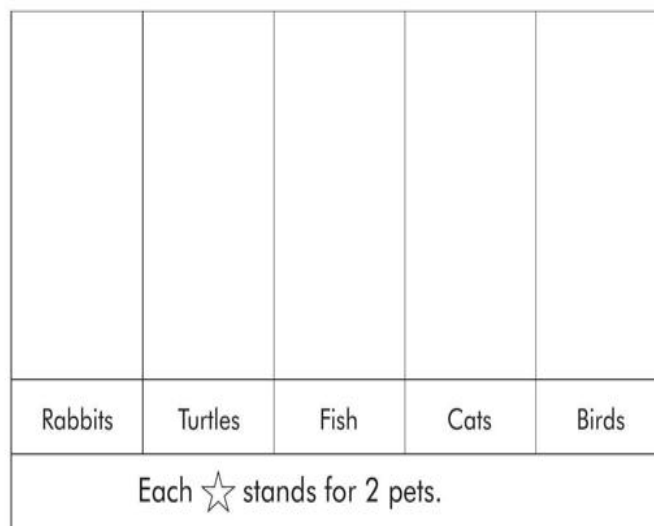


- (a) The most cartons of milk were sold on \_\_\_\_\_.
- (b) 50 cartons of milk were sold on Tuesday.  
Each  stands for \_\_\_\_\_ carton(s) of milk.
- (c) \_\_\_\_\_ cartons of milk were sold on Friday.
- (d) \_\_\_\_\_ more cartons of milk were sold on Thursday than on Friday.
- (e) \_\_\_\_\_ fewer cartons of milk were sold on Monday than on Friday.
- (f) \_\_\_\_\_ cartons of milk were sold on Tuesday and Thursday.

3. Below is a chart that shows the animals that Aiden's classmates keep as pets.

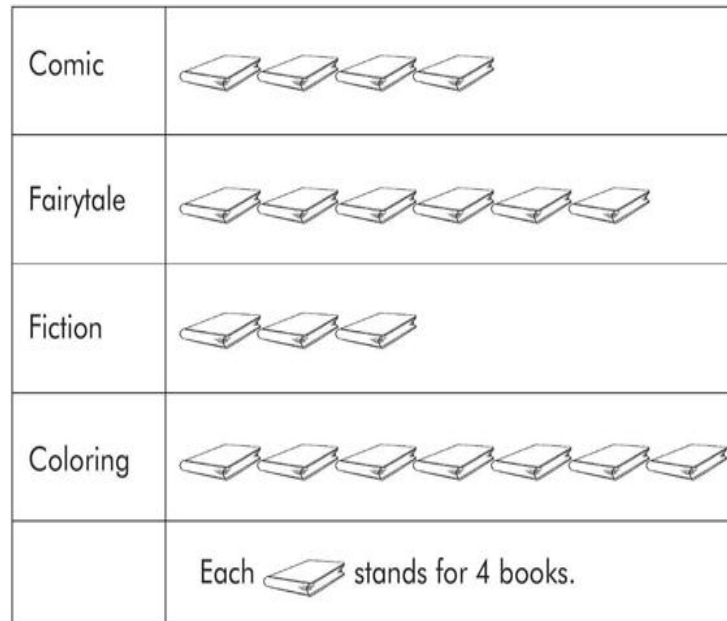


Help Aiden complete the picture graph below.



4. Study the picture graph below. Fill in each blank with the correct answer.

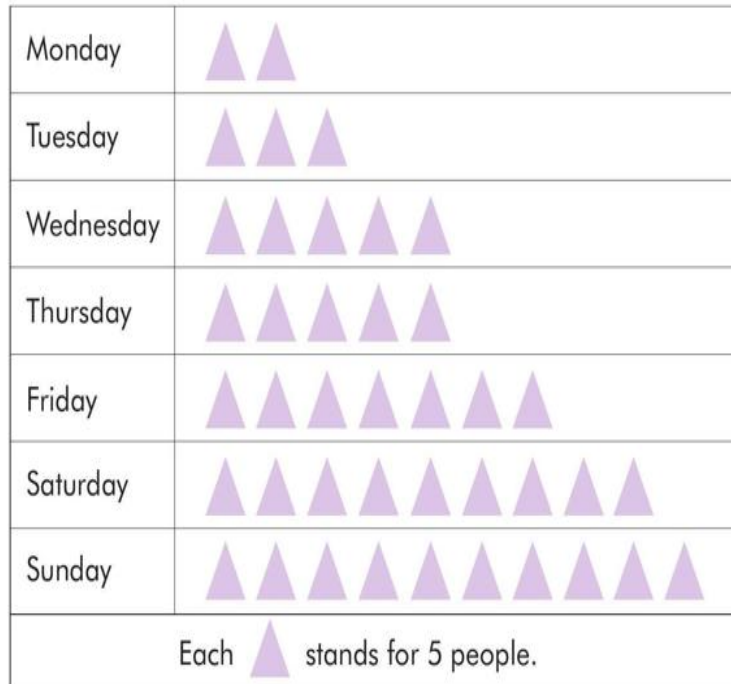
**Number of books sold in a bookstore**



- (a) \_\_\_\_\_ books were the most popular.
- (b) \_\_\_\_\_ books were the least popular.
- (c) 4 fewer fairytale books were sold than \_\_\_\_\_ books.
- (d) \_\_\_\_\_ more comic books were sold than fiction books.
- (e) \_\_\_\_\_ fewer comic books were sold than coloring books.

5. Study the picture graph below. Fill in each blank with the correct answer.

**Number of people at the movies**



- (a) \_\_\_\_\_ people went to the movies on Wednesday.
- (b) \_\_\_\_\_ more people went to the movies on Friday than on Tuesday.
- (c) 2 children went to the movies on Monday. There were \_\_\_\_\_ adults at the movies on Monday.
- (d) \_\_\_\_\_ people went to the movies over the weekend.
- (e) 16 adults went to the movies on Thursday. There were \_\_\_\_\_ children at the movies on Thursday.

## REVIEW 7

Write the volume of water in each container on the lines below.

1.



\_\_\_\_\_ L of water

2.



\_\_\_\_\_ gal. of water

3.



\_\_\_\_\_ L of water

Fill in each blank with the correct answer.

4. **Favorite dinners of a group of children**

|                                                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                              |  |  |  |  |
| Pizza                                                                                                         | Meatloaf                                                                          | Spaghetti                                                                         | Tacos                                                                             | Roast chicken                                                                       |
| Each  represents 3 children. |                                                                                   |                                                                                   |                                                                                   |                                                                                     |

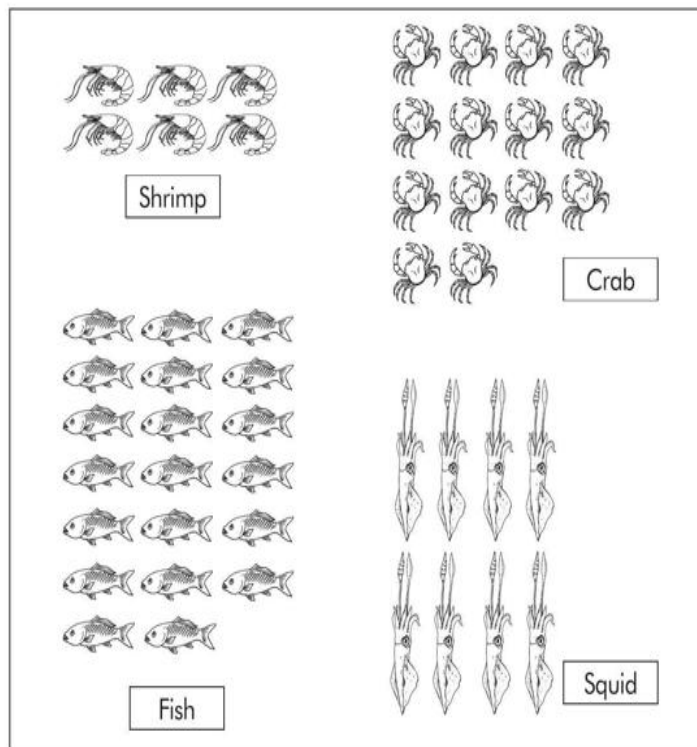
- (a) The number of children who like to eat tacos is \_\_\_\_\_.
- (b) The number of children who like to eat spaghetti is \_\_\_\_\_.
- (c) There are \_\_\_\_\_ fewer children who like to eat roast chicken than tacos.
- (d) There are \_\_\_\_\_ more children who like to eat pizza than meatloaf.
- (e) The total number of children who like to eat meatloaf and spaghetti is \_\_\_\_\_.

5.

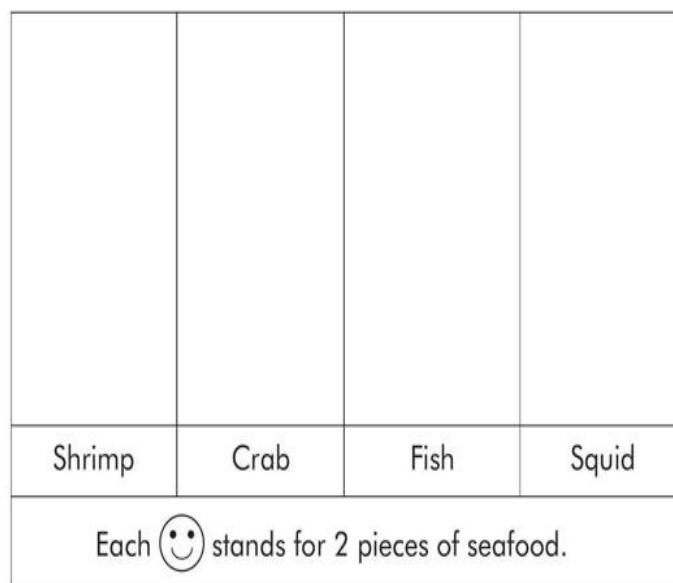


- (a) The container that holds the greatest volume of water is the \_\_\_\_\_.
- (b) The container that holds the least volume of water is the \_\_\_\_\_.
- (c) The jug holds \_\_\_\_\_ more ladles of water than the cup.
- (d) The cup holds \_\_\_\_\_ fewer ladles of water than the teapot.
- (e) The total number of ladles that the 3 containers can hold is \_\_\_\_\_.

6. The pictures below show the types of seafood Mr. Kaufman sold at the fish market.



Complete the picture graph.



**Do the following story problems. Show your work in the space below.**

7. Riley bought 2 bottles of fruit juice. Each bottle contained 8 oz. of fruit juice. How many ounces of fruit juice did Riley buy?

Riley bought \_\_\_\_\_ oz. of fruit juice.

8. Li mixes 10 L of water with 8 L of frozen concentrate to make lemonade.  
(a) How many liters of lemonade does Li make?

Li makes \_\_\_\_\_ L of lemonade.

- (b) If Li gives 3 L of lemonade to her neighbor, how many liters of lemonade will she have left?

She will have \_\_\_\_\_ L of lemonade left.

9. Isabelle collected 10 gal. of rainwater on Monday. She collected 15 gal. of rainwater on Wednesday. How much rainwater did she collect altogether?

She collected \_\_\_\_\_ gal. of rainwater altogether.

10. Kate bought 5 L of milk over the weekend. She drank 2 L of milk on Monday and Tuesday. How much milk was left?

\_\_\_\_\_ L of milk was left.

11. Andy needed to buy 20 gal. of drinks for his birthday party. He bought 10 gal. of drinks from Supermarket A and 5 gal. of drinks from Supermarket B.

(a) How many gallons of drinks did Andy buy?

Andy bought \_\_\_\_\_ gal. of drinks.

(b) How many more gallons did he need to buy?

He needed to buy \_\_\_\_\_ more gallons of drinks.

12. Eva bought 2 bottles of liquid detergent. Bottle A contained 8 L of liquid detergent. Bottle B contained 25 L of liquid detergent. How much liquid detergent did Eva buy altogether?

Eva bought \_\_\_\_\_ L of liquid detergent altogether.

13. Kenji removed some water from a tank using a bucket. The bucket could hold 2 gal. of water. He filled the bucket completely with water 6 times. How much water did he remove from the tank?

Kenji removed \_\_\_\_\_ gal. of water from the tank.

14. Nick poured 24 L of orange juice into 4 containers equally. How much orange juice was there in each container?

There was \_\_\_\_\_ L of orange juice in each container.

15. Mrs. Anderson recycles water by collecting used water from the washing machine. She collects 5 buckets of used water every week. Each bucket can hold 3 gal. of used water. How much used water does she collect every week?

She collects \_\_\_\_\_ gal. of used water every week.

16. Jamie drinks 2 L of water daily. How much water does she drink in 10 days?

She drinks \_\_\_\_\_ L of water in 10 days.

17. Mr. Tomasek brews 17 gal. of coffee and 25 gal. of tea every day. How much coffee and tea does he brew every day?

He brews \_\_\_\_\_ gal. of coffee and tea every day.

18. Luisa pours 36 gal. of apple juice equally into some containers. Each container can hold 4 gal. of apple juice. How many containers does she need?

She needs \_\_\_\_\_ containers.

19. Alyssa bought 8 bottles of detergent. Each bottle of detergent was 2 L. How many liters of detergent did Alyssa buy?

Alyssa bought \_\_\_\_\_ L of detergent.

20. George used 5 gal. of water to wash a car. How many cars did he wash if he used 35 gal. of water?

He washed \_\_\_\_\_ cars if he used 35 gal. of water.

## Unit 16: LINES AND SURFACES

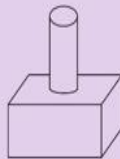
### Examples:

1. This picture is formed using straight lines and curves.



- (a) How many straight lines are there? 2 straight lines  
(b) How many curves are there? 2 curves

2. The object below is made from a tissue box and a toilet paper roll.



How many flat surfaces does the object have? 5 flat surfaces

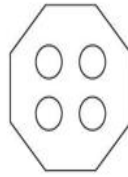
Fill in each blank with the correct answer.

1. **2 3 4 5 7 8**

Which of the above digits have

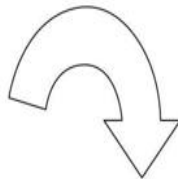
- (a) straight lines only? \_\_\_\_\_  
(b) curves only? \_\_\_\_\_  
(c) straight lines and curves? \_\_\_\_\_

2.



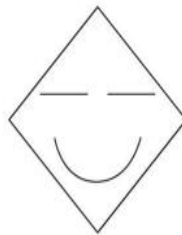
There are \_\_\_\_\_ straight lines and \_\_\_\_\_ curves in the above picture.

3.



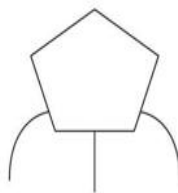
There are \_\_\_\_\_ straight lines and \_\_\_\_\_ curves in the above picture.

4.



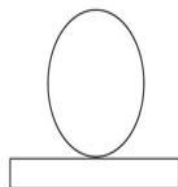
There are \_\_\_\_\_ straight lines and \_\_\_\_\_ curve in the above picture.

5.



There are \_\_\_\_\_ straight lines and \_\_\_\_\_ curves in the above picture.

6.



There are \_\_\_\_\_ straight lines and \_\_\_\_\_ curve in the above picture.

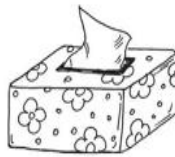
**Look at these objects carefully. Fill in each blank with the correct answer.**

7.



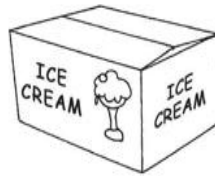
The candle has \_\_\_\_\_ flat surface(s).

8.



The box of tissues has \_\_\_\_\_ flat surface(s).

9.



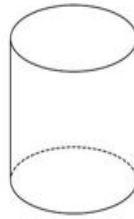
The box of ice cream has \_\_\_\_\_ flat surface(s).

10.



The pot of flowers has \_\_\_\_\_ flat surface(s).

11.



The container has \_\_\_\_\_ flat surface(s).

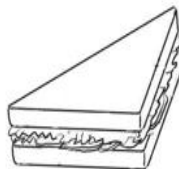
**For each object, count the number of flat surfaces. Write the correct answer on the lines below.**

12.



\_\_\_\_\_ flat surfaces

13.



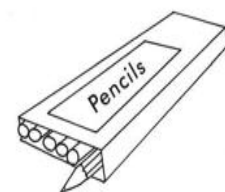
\_\_\_\_\_ flat surfaces

14.



\_\_\_\_\_ flat surfaces

15.

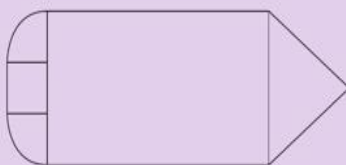


\_\_\_\_\_ flat surfaces

## Unit 17: SHAPES AND PATTERNS

### Examples:

1. What shapes are used to form the figure below?



The shapes are **quarter circle**, **square**, **rectangle**, and **triangle**.

2. Draw a figure using a cone, a cube, and a cylinder.



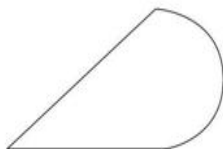
3. What comes next in the pattern below?



comes next in the pattern.

**Each figure is made of 2 different shapes. Name the 2 shapes.**

8.

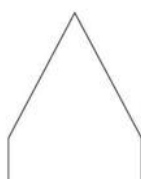


This figure is made of a

\_\_\_\_\_ and

a \_\_\_\_\_.

9.

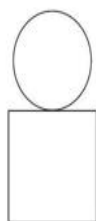


This figure is made of a

\_\_\_\_\_ and

a \_\_\_\_\_.

10.



This figure is made of a

\_\_\_\_\_ and

a \_\_\_\_\_.

11.



This figure is made of a

\_\_\_\_\_ and

a \_\_\_\_\_.

12.

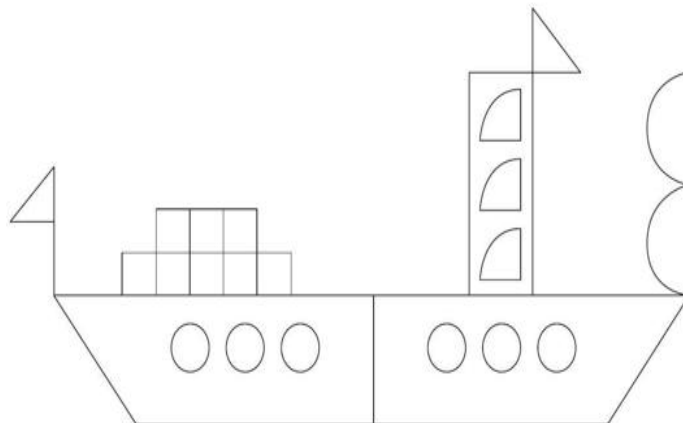


This figure is made of a

\_\_\_\_\_ and

a \_\_\_\_\_.

13. Look at the figure carefully, and fill in each blank with the correct answer.



The figure is formed by

- (a) \_\_\_\_\_ rectangles,
- (b) \_\_\_\_\_ triangles,
- (c) \_\_\_\_\_ quarter circles,
- (d) \_\_\_\_\_ circles,
- (e) \_\_\_\_\_ squares, and
- (f) \_\_\_\_\_ semicircles.

**Draw lines to show the different shapes that make each figure.**

14.



16.

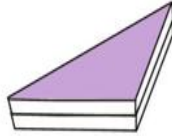


15.



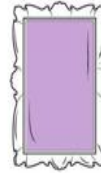
Fill in each blank with the name of the shaded part of each picture.

17.



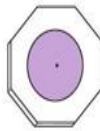
\_\_\_\_\_

20.



\_\_\_\_\_

18.



\_\_\_\_\_

21.



\_\_\_\_\_

19.



\_\_\_\_\_

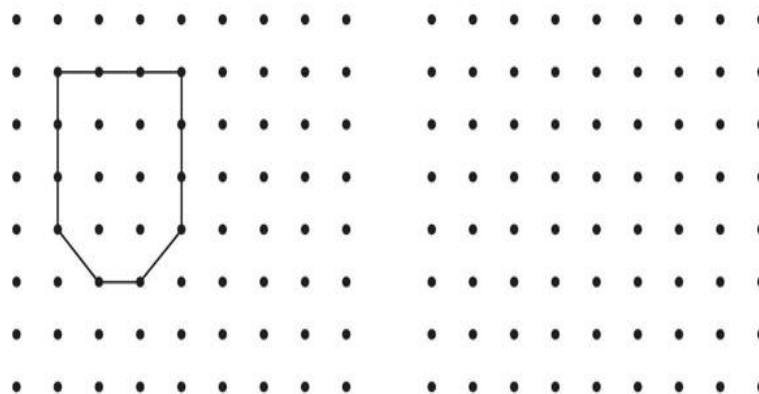
22.



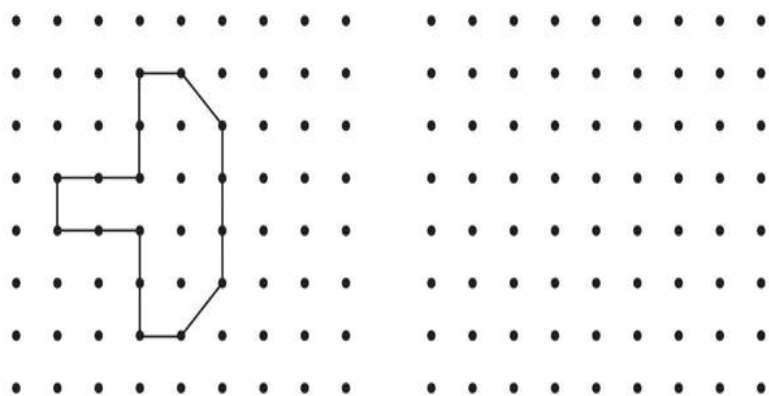
\_\_\_\_\_

Carefully look at each shape on the left. Draw the same shape on the dot grid on the right.

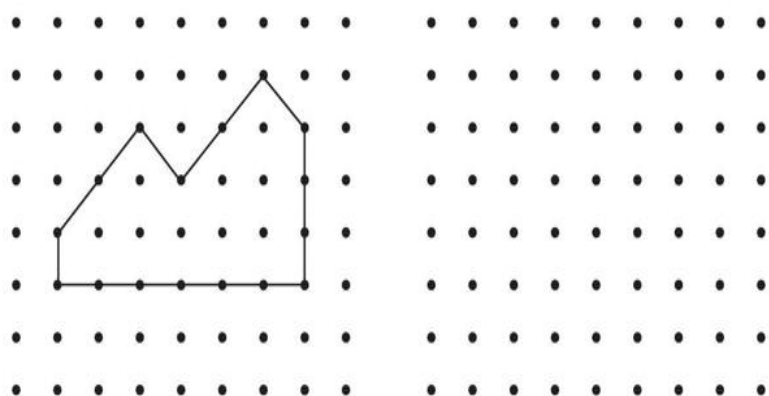
23.



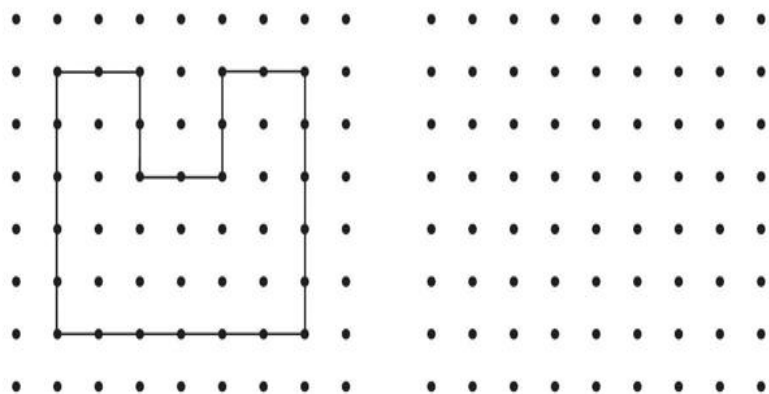
24.



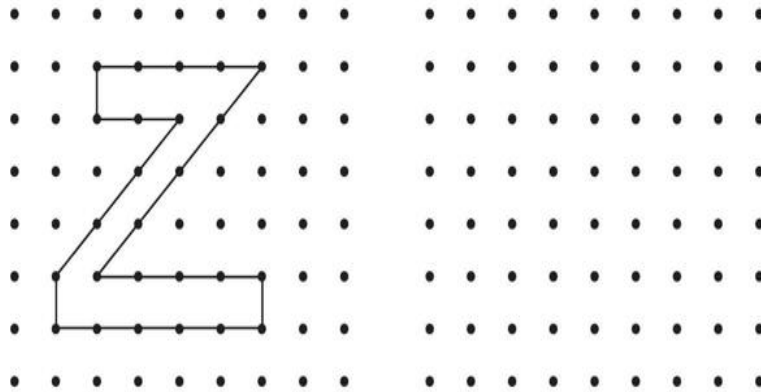
25.



26.

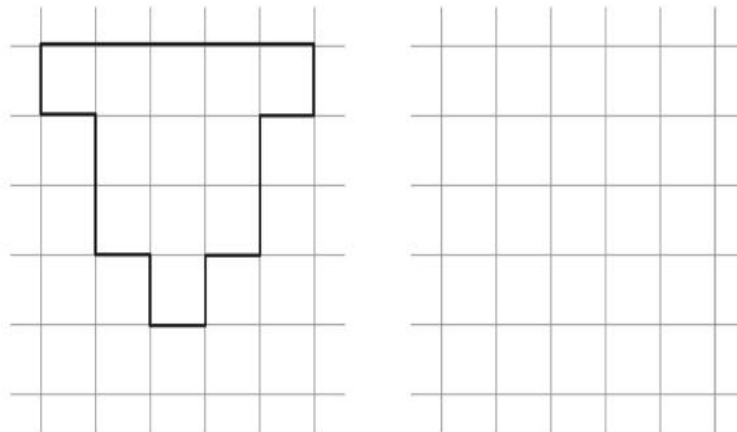


27.

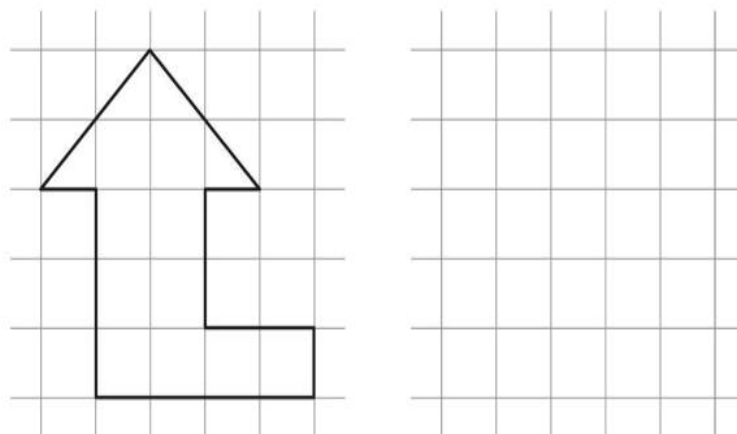


Carefully look at each shape on the left. Draw the same shape on the square grid on the right.

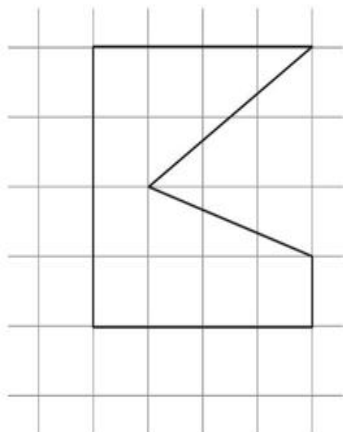
28.



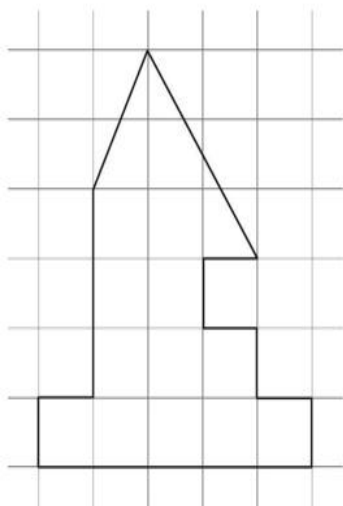
29.



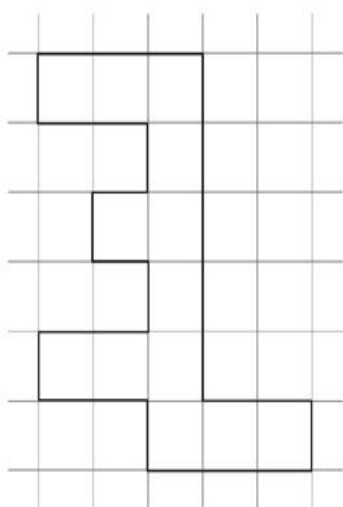
30.



31.



32.



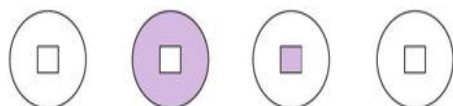
Put a check mark (✓) in the correct box to complete each pattern.

33.



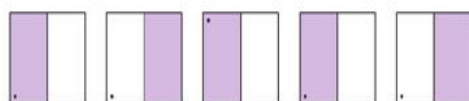
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34.



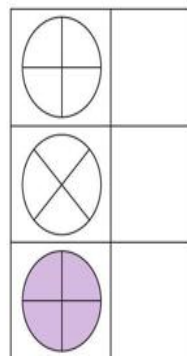
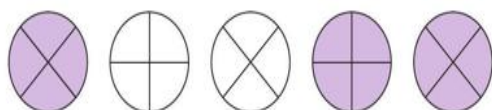
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35.



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36.

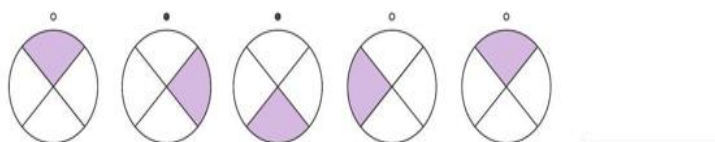


**Complete the following patterns.**

37.



38.



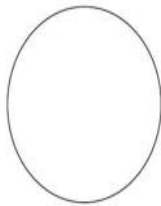
39.



## REVIEW 8

Name the following shapes.

1.



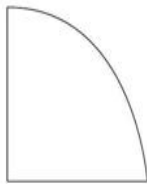
\_\_\_\_\_

4.



\_\_\_\_\_

2.



\_\_\_\_\_

5.



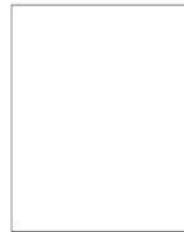
\_\_\_\_\_

3.



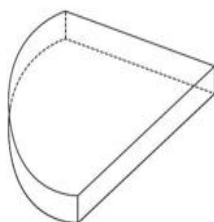
\_\_\_\_\_

6.



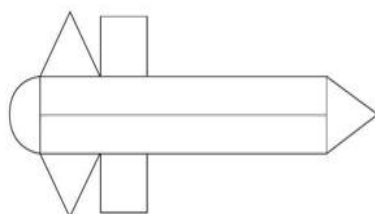
\_\_\_\_\_

7.



The figure above has \_\_\_\_\_ flat surface(s).

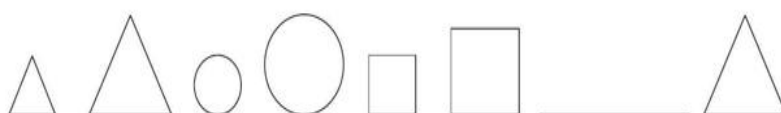
8.



There are \_\_\_\_\_ triangles, \_\_\_\_\_ semicircles, \_\_\_\_\_ rectangles, and \_\_\_\_\_ squares in the figure above.

**Complete the following patterns.**

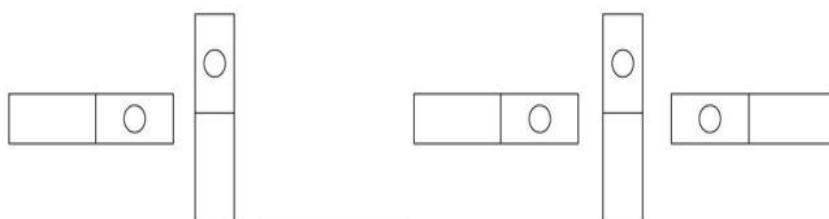
9.



10.

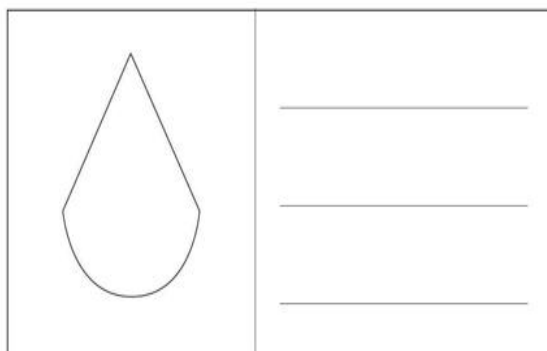


11.

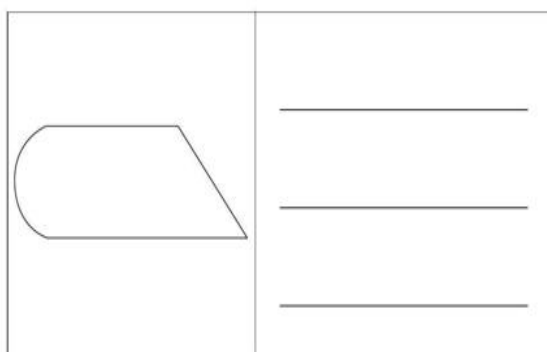


**Draw dotted lines on each figure, and identify the shapes that form the figure on the lines below.**

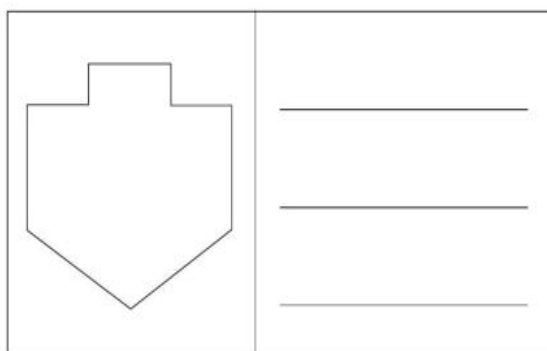
12.



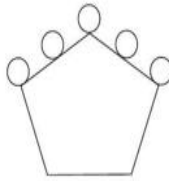
13.



14.



15.



There are \_\_\_\_\_ straight lines and \_\_\_\_\_ curves in the above picture.

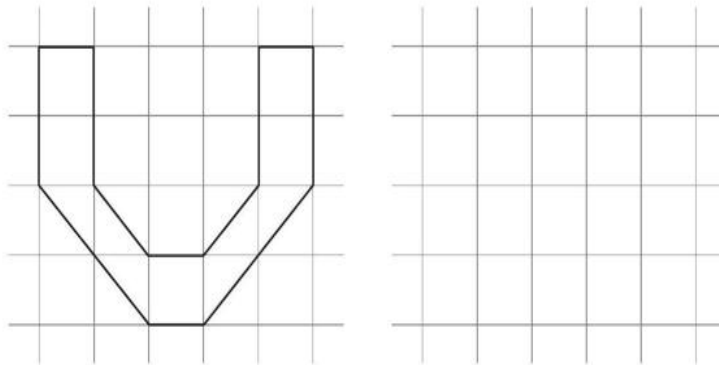
16.



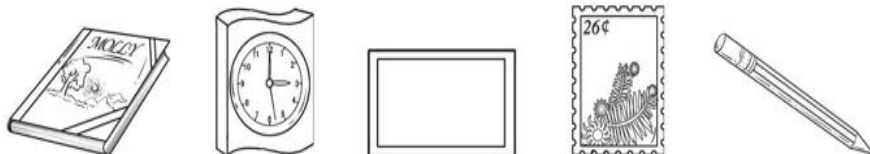
The battery has \_\_\_\_\_ flat surface(s).

**Look at the shape on the left. Draw the same shape on the square grid on the right.**

17.

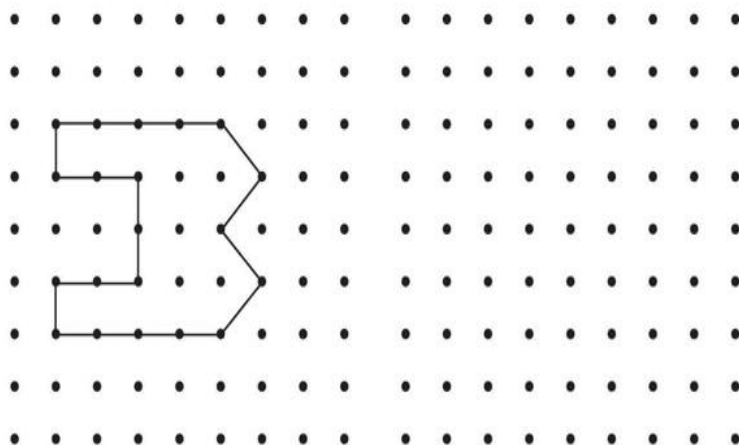


18. Color the objects that have only flat surfaces.

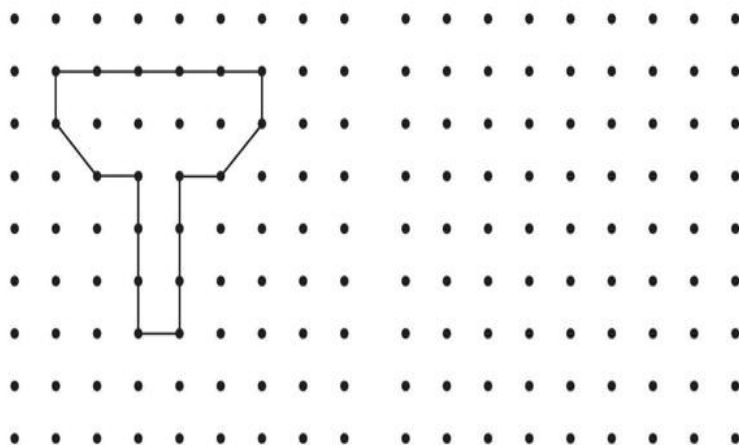


Carefully look at each shape on the left. Draw the same shape on the dot grid on the right.

19.

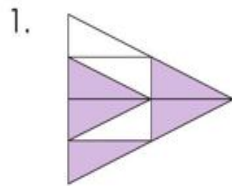


20.



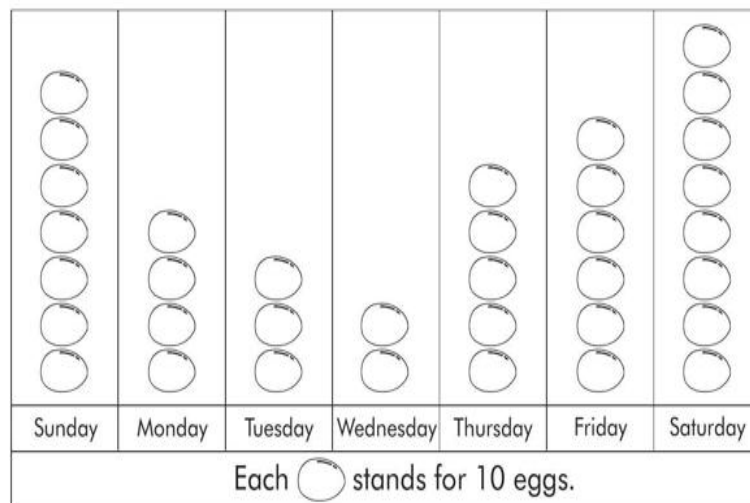
## FINAL REVIEW

Fill in each blank with the correct answer.



\_\_\_\_\_ of the figure is shaded.

2. The picture graph below shows the number of eggs Jackson sold in a week.



- (a) He sold \_\_\_\_\_ eggs on Thursday.
- (b) He sold \_\_\_\_\_ eggs on Sunday.
- (c) He sold \_\_\_\_\_ more eggs on Friday than on Monday.
- (d) He sold \_\_\_\_\_ fewer eggs on Tuesday than on Saturday.
- (e) He sold \_\_\_\_\_ eggs altogether on Monday and Wednesday.

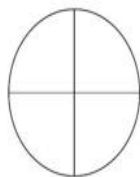
3. The time shown on the clock is 11:50 A.M.

30 minutes later, it will be \_\_\_\_\_.

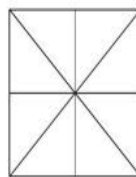


4. Shade  $\frac{1}{4}$  of each figure.

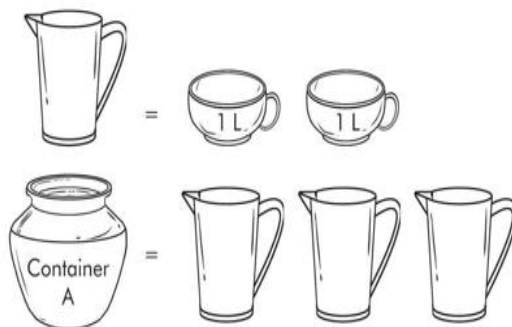
(a)



(b)



- 5.



Container A can hold \_\_\_\_\_ L of water.

6. Complete the pattern.



7. Add 790 and 70 mentally. \_\_\_\_\_

8.  $\frac{2}{5}$  and \_\_\_\_\_ make one whole.

9. Draw the minute hand on the clock to show 6:40 P.M.



10. The figure on the right is made of a \_\_\_\_\_ and a \_\_\_\_\_.



11. Look at the figures carefully.

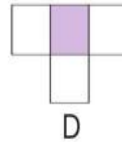


Figure \_\_\_\_\_ does not belong in the group.

12.  $\triangle \times \triangle = 100$   
 $\bigcirc \times \bigcirc = 25$   
 $\triangle \times \bigcirc = \underline{\hspace{2cm}}$

13.  $\frac{1}{10} + \frac{4}{10} + \frac{2}{10} = \underline{\hspace{2cm}}$

14. The figure below is made of 4 different shapes. Draw dotted lines to show the shapes.



15. Circle the largest fraction.

$$\frac{1}{12} \quad , \quad \frac{1}{9} \quad , \quad \frac{1}{11}$$

16. \$48.30 = \_\_\_\_\_ dollars and \_\_\_\_\_ cents

17. Subtract 90 from 345 mentally. \_\_\_\_\_

18. Express 9,080¢ in dollars. \_\_\_\_\_

19. Subtract  $\frac{2}{11}$  from  $\frac{5}{11}$ . \_\_\_\_\_

**Solve the following story problems. Show your work in the space below.**

20. Alice spent \$30 at the supermarket. Sydney spent twice as much as Alice. How much did Sydney spend?

Sydney spent \$\_\_\_\_\_.

21. Patrick gave 5 cans of juice to each of his 7 friends. How many cans of juice did he give to his friends?

He gave \_\_\_\_\_ cans of juice to his friends.

22. 3 groups of students took part in an art competition. There were 129 students in Group A, 257 students in Group B, and 229 students in Group C. How many students took part in the art competition?

\_\_\_\_\_ students took part in the art competition.

23. Terrell reads 4 books in a day. How many books will he read in a week?

He will read \_\_\_\_\_ books in a week.

24. Tyler and Jack make 600 L of fruit punch for an event. If Tyler makes 228 L of fruit punch, how many liters of fruit punch does Jack make?

Jack makes \_\_\_\_\_ L of fruit punch.

25. Malak received \$50 from his aunt and \$30 from his uncle on his birthday. How much money did Malak receive in all?

Malak received \$\_\_\_\_\_ in all.

## CHALLENGE QUESTIONS

**Solve the following problems on another sheet of paper.**

1. The chart below shows the number of pieces of clothing Mrs. Robinson sewed.

|                    |   |    |    |
|--------------------|---|----|----|
| Number of days     | 1 | 3  | 6  |
| Pieces of clothing | 4 | 12 | 24 |

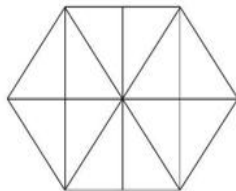
How many pieces of clothing did Mrs. Robinson sew in 10 days?

2. Sam is 12 years old. His mother is 3 times his age. His father is 5 years older than his mother. How much older is Sam's father than Sam?
3. Use numbers from 10 to 18 to make each vertical and horizontal line equal to the numbers in the shaded boxes. Each number can be used only once.

|    |    |    |    |
|----|----|----|----|
|    |    |    | 41 |
|    |    |    | 42 |
|    |    |    | 43 |
| 43 | 42 | 41 |    |

4. Five minutes before recess, Carlos and Henry looked at their watches. Carlos's watch was 5 minutes faster than the classroom clock. Henry's watch was 5 minutes slower than the classroom clock. If Carlos's watch showed 9:50 A.M., what was the time shown on Henry's watch?
5.  $\heartsuit + \triangle = 120$   
 $\heartsuit + \heartsuit = 80$   
 $\heartsuit + \triangle + \triangle + \triangle = \underline{\hspace{2cm}}$
6. The product of 2 numbers is 50. The result of the division of the 2 numbers is 2. What are the 2 numbers?

7. Christopher had a bottle of orange juice. He gave some juice to his best friend. He then gave half of the remaining juice to his neighbor. He was left with  $\frac{1}{4}$  of the bottle of orange juice. What fraction of the bottle of orange juice did Christopher give to his best friend?
8. Austin spent an hour watching cartoons followed by 2 hours of a nap, and 3 hours of homework. If Austin completed his homework at 10 P.M., what time did he start watching cartoons?
9. How many triangles are there in the figure shown below?  
(Hint: The triangles do not need to all be the same size.)



10. Fill in the blank with the correct answer.

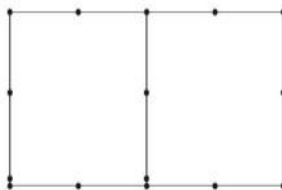
$$(\text{ )} \times \text{◇} = 32$$

$$(\text{ )} + \text{◇} = 12$$

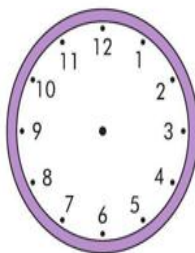
$$(\text{ )} \div \text{◇} = 2$$

$$(\text{ )} - \text{◇} = \underline{\hspace{2cm}}$$

11. Winnie uses some sticks to form 2 squares as shown below. How would you rearrange 4 matchsticks to form 3 rectangles?



12. It took Rico 30 minutes to wash his father's car and an hour to mow the lawn. Then, he took a 20-minute bath. By the time he stepped out of the bathroom, the hour hand pointed to 1 and the minute hand pointed to 4. On the clock, show the time Rico started to wash his father's car.



# SOLUTIONS

## Singapore Math Level 2A

### Unit 1: Numbers up to 1,000

1. 4 hundreds 2 tens 5 ones = **425**
2. 3 hundreds 8 tens 7 ones = **387**
3. 5 hundreds 3 tens = **530**
4. 8 hundreds 7 ones = **807**
5. 10 hundreds = **1,000**
6. **seven hundred and sixty**
7. **three hundred and seventy-eight**
8. **four hundred and fifty-six**
9. **two hundred and two**
10. **one thousand**
11. **562**
12. **779**
13. **110**
14. **358**
15. **907**
16. **8, 2, 5**
17. **6, 3, 0**
18. **7, 0, 5**
19. **4, 5, 9**
20. **10, 0, 0**
21. **tens**
22. **hundreds**
23. **hundreds**
24. **9**
25. **3**
26. **0**
27. **greater**
28. **smaller**
29. **smaller**
30. **greater**
31. **smaller**
32. **379, 397, 937, 973**
33. **129, 192, 219, 319**
34. **511, 571, 715, 751**
35. **116, 163, 313, 316**
36. **344, 404, 434, 443**
37. **750, 705, 570, 507**
38. **413, 341, 314, 134**
39. **960, 608, 517, 289, 187**
40. **857, 456, 320, 220, 190**
41. **970, 927, 727, 290, 279**
42.  $10 + 560 = \mathbf{570}$
43.  $680 - 20 = \mathbf{660}$
44.  $100 + 778 = \mathbf{878}$
45.  $695 - 200 = \mathbf{495}$

46.  $279 - 5 = \mathbf{274}$
47. **300, 310**  
 $290 - 280 = 10$   
 $290 + 10 = 300$   
 $300 + 10 = 310$
48. **670, 570**  
 $970 - 870 = 100$   
 $770 - 100 = 670$   
 $670 - 100 = 570$
49. **780, 840**  
 $820 - 800 = 20$   
 $760 + 20 = 780$   
 $820 + 20 = 840$
50. **490, 520**  
 $460 - 430 = 30$   
 $460 + 30 = 490$   
 $490 + 30 = 520$
51. **450, 550**  
 $750 - 650 = 100$   
 $650 - 100 = 550$   
 $550 - 100 = 450$

### Unit 2: Adding and Subtracting Numbers 1-1,000

1. 
$$\begin{array}{r} 143 \\ + 214 \\ \hline 357 \end{array}$$
2. 
$$\begin{array}{r} 312 \\ + 481 \\ \hline 793 \end{array}$$
3. 
$$\begin{array}{r} 732 \\ + 145 \\ \hline 877 \end{array}$$
4. 
$$\begin{array}{r} 201 \\ + 283 \\ \hline 484 \end{array}$$
5. 
$$\begin{array}{r} 821 \\ + 163 \\ \hline 984 \end{array}$$
6. 
$$\begin{array}{r} 569 \\ - 234 \\ \hline 335 \end{array}$$
7. 
$$\begin{array}{r} 932 \\ - 121 \\ \hline 811 \end{array}$$
8. 
$$\begin{array}{r} 736 \\ - 204 \\ \hline 532 \end{array}$$

$$\begin{array}{r} 9. \quad 375 \\ - 152 \\ \hline 223 \end{array}$$

$$\begin{array}{r} 10. \quad 859 \\ - 607 \\ \hline 252 \end{array}$$

$$\begin{array}{r} 11. \quad 135 \\ + 109 \\ \hline 244 \end{array}$$

$$\begin{array}{r} 12. \quad 505 \\ + 295 \\ \hline 800 \end{array}$$

$$\begin{array}{r} 13. \quad 737 \\ + 129 \\ \hline 866 \end{array}$$

$$\begin{array}{r} 14. \quad 256 \\ + 380 \\ \hline 636 \end{array}$$

$$\begin{array}{r} 15. \quad 462 \\ + 208 \\ \hline 670 \end{array}$$

$$\begin{array}{r} 16. \quad 397 \\ + 546 \\ \hline 943 \end{array}$$

$$\begin{array}{r} 17. \quad 21413 \\ - 174 \\ \hline 179 \end{array}$$

$$\begin{array}{r} 18. \quad 981 \\ - 369 \\ \hline 612 \end{array}$$

$$\begin{array}{r} 19. \quad 3910 \\ - 205 \\ \hline 195 \end{array}$$

$$\begin{array}{r} 20. \quad 513 \\ - 171 \\ \hline 461 \end{array}$$

$$\begin{array}{r} 21. \quad 31012 \\ - 124 \\ \hline 288 \end{array}$$

$$\begin{array}{r} 22. \quad 4910 \\ - 178 \\ \hline 322 \end{array}$$

$$\begin{array}{r} 23. \quad 710 \\ - 280 \\ \hline 520 \end{array}$$

$$\begin{array}{r} 24. \quad 980 \\ - 555 \\ \hline 425 \end{array}$$

25.

$$\begin{array}{r} 592 - 368 \\ \hline 224 \end{array}$$

$$\begin{array}{r} 446 + 369 \\ \hline 815 \end{array}$$

$$\begin{array}{r} 1,000 - 468 \\ \hline 532 \end{array}$$

$$\begin{array}{r} 319 + 680 \\ \hline 999 \end{array}$$

$$\begin{array}{r} 856 - 159 \\ \hline 697 \end{array}$$

26.

|    |   |    |   |     |
|----|---|----|---|-----|
| 73 | + | 42 | = | 115 |
| -  |   | +  |   | -   |
| 70 | - | 30 | = | 40  |
| =  |   | =  |   | =   |
| 3  | + | 72 | = | 75  |

27.

|     |   |     |   |     |
|-----|---|-----|---|-----|
| 231 | + | 124 | = | 355 |
| -   |   | +   |   | -   |
| 115 | - | 96  | = | 19  |
| =   |   | =   |   | =   |
| 116 | + | 220 | = | 336 |

28.

|      |     |   |
|------|-----|---|
| Anne |     | ? |
| Lena | 389 |   |

317

$$389 + 317 = 706$$

Anne collects **706** stickers.

29.

|      |     |
|------|-----|
| Tom  | 416 |
| John | ?   |

29

$$416 - 29 = 387$$

John has **387** bottle caps.

30.

|        |         |
|--------|---------|
| Monday | Tuesday |
| 586    | 237     |

?

$$586 + 237 = 823$$

He sold **823** roses altogether.

31.

|          |        |
|----------|--------|
| Saturday | Sunday |
| 416      | 555    |

?

$$416 + 555 = 971$$

**971** visitors were at the museum on both days.

32. 

|        |       |
|--------|-------|
| Marcus | Jack  |
| ?      | \$469 |

  
 $\$837$   
 $\$837 - \$469 = \$368$   
 Marcus spent **\$368**.

$$\begin{array}{r} 7\ 12\ 17 \\ 8\ 3\ 7 \\ -4\ 6\ 9 \\ \hline 3\ 6\ 8 \end{array}$$

### Review 1

1. **three hundred and seventy-five**
2. **nine hundred and nineteen**
3. **212**
4. **303**
5. **917, 420, 402, 313, 179**
6. **128, 182, 218, 281, 812**
7.  $10 + 360 = \mathbf{370}$
8.  $876 - 50 = \mathbf{826}$
9. **516, 456**  
 $496 - 476 = 20$   
 $536 - 20 = 516$   
 $476 - 20 = 456$

$$\begin{array}{r} 1 \\ 6\ 0\ 8 \\ +1\ 2\ 9 \\ \hline 7\ 3\ 7 \end{array}$$

$$\begin{array}{r} 1\ 1 \\ 5\ 7\ 6 \\ +1\ 8\ 8 \\ \hline 7\ 6\ 4 \end{array}$$

$$\begin{array}{r} 1 \\ 1\ 5\ 4 \\ +3\ 6\ 5 \\ \hline 5\ 1\ 9 \end{array}$$

$$\begin{array}{r} 1\ 1 \\ 3\ 1\ 2 \\ +4\ 9\ 8 \\ \hline 8\ 1\ 0 \end{array}$$

$$\begin{array}{r} 6\ 9\ 10 \\ 8\ 0\ 0 \\ -4\ 3\ 5 \\ \hline 2\ 6\ 5 \end{array}$$

$$\begin{array}{r} 1\ 18 \\ 3\ 2\ 8 \\ -1\ 0\ 9 \\ \hline 2\ 1\ 9 \end{array}$$

$$\begin{array}{r} 7\ 15\ 10 \\ 8\ 6\ 0 \\ -3\ 8\ 9 \\ \hline 4\ 7\ 1 \end{array}$$

$$\begin{array}{r} 4\ 13\ 12 \\ 5\ 4\ 2 \\ -3\ 7\ 9 \\ \hline 1\ 6\ 3 \end{array}$$

18. (a)  $575 - 379 = 196$   
 Wednesday 

|     |
|-----|
| 575 |
|-----|

  
 Monday 

|     |   |
|-----|---|
| 379 | ? |
|-----|---|

  
**196** more people went to the zoo on Wednesday than on Monday.
- (b)  $686 - 379 = 307$   
 Tuesday 

|     |
|-----|
| 686 |
|-----|

  
 Monday 

|     |   |
|-----|---|
| 379 | ? |
|-----|---|

$$\begin{array}{r} 4\ 16\ 15 \\ 5\ 7\ 5 \\ -3\ 7\ 9 \\ \hline 1\ 9\ 6 \end{array}$$

$$\begin{array}{r} 7\ 16 \\ 6\ 8\ 8 \\ -3\ 7\ 9 \\ \hline 3\ 0\ 7 \end{array}$$

**307** fewer people went to the zoo on Monday than on Tuesday.

19. 

|       |   |
|-------|---|
| 1,000 |   |
| 494   | ? |

  
 $1,000 - 494 = 506$   
 Aaron needs to collect **506** more stamps.

$$\begin{array}{r} 0\ 9\ 9\ 10 \\ 1\ 0\ 0\ 0 \\ -4\ 9\ 4 \\ \hline 5\ 0\ 6 \end{array}$$

20. 

|     |     |
|-----|-----|
| ?   |     |
| 360 | 265 |

  
 $360 + 265 = 625$   
 Jazmin sold **625** flowers on both days.

$$\begin{array}{r} 1 \\ 3\ 6\ 0 \\ +2\ 6\ 5 \\ \hline 6\ 2\ 5 \end{array}$$

### Unit 3: Fun with Models (Adding and Subtracting)

1. 

|     |     |
|-----|-----|
| ?   |     |
| 576 | 186 |

  
 $576 + 186 = 762$

$$\begin{array}{r} 1\ 1 \\ 5\ 7\ 6 \\ +1\ 8\ 6 \\ \hline 7\ 6\ 2 \end{array}$$

$576 + 186 = 762$   
 They have **762** bookmarks altogether.

2. 

|     |   |
|-----|---|
| 280 |   |
| 168 | ? |

  
 $280 - 168 = 112$   
 He has **112** chickens left.

$$\begin{array}{r} 7\ 10 \\ 2\ 8\ 0 \\ -1\ 6\ 8 \\ \hline 1\ 1\ 2 \end{array}$$

3. 

|     |     |     |
|-----|-----|-----|
| ?   |     |     |
| 360 | 275 | 150 |

  
 $360 + 275 + 150 = 785$   
 He sold **785** oranges altogether.

$$\begin{array}{r} 1 \\ 3\ 6\ 0 \\ +2\ 7\ 5 \\ \hline 6\ 3\ 5 \end{array} \quad \begin{array}{r} 6\ 3\ 5 \\ +1\ 5\ 0 \\ \hline 7\ 8\ 5 \end{array}$$

$360 + 275 + 150 = 785$   
 He sold **785** oranges altogether.

4. 

|    |   |
|----|---|
| 96 |   |
| 78 | ? |

  
 $96 - 78 = 18$   
 She gave **18** seashells to her best friend.

$$\begin{array}{r} 8\ 16 \\ 9\ 6 \\ -7\ 8 \\ \hline 1\ 8 \end{array}$$

5. 

|     |     |
|-----|-----|
| ?   |     |
| 131 | 280 |

  
 $131 + 280 = 411$   
 He had **411** stamps altogether.

$$\begin{array}{r} 1 \\ 1\ 3\ 1 \\ +2\ 8\ 0 \\ \hline 4\ 1\ 1 \end{array}$$

6. 

|     |     |    |
|-----|-----|----|
| ?   |     |    |
| 216 | 137 | 97 |

  
 $216 + 137 + 97 = 450$   
 There are **450** animals on the farm.

$$\begin{array}{r} 1 \\ 2\ 1\ 6 \\ +1\ 3\ 7 \\ \hline 3\ 5\ 3 \end{array} \quad \begin{array}{r} 1\ 1 \\ 3\ 5\ 3 \\ +9\ 7 \\ \hline 4\ 5\ 0 \end{array}$$

$216 + 137 + 97 = 450$   
 There are **450** animals on the farm.

7. 

|     |   |
|-----|---|
| 720 |   |
| 465 | ? |

  
 $720 - 465 = 255$   
 He gave **255** trading cards to his brother.

$$\begin{array}{r} 6\ 11\ 10 \\ 7\ 2\ 0 \\ -4\ 6\ 5 \\ \hline 2\ 5\ 5 \end{array}$$

8. (a) Hitomi 

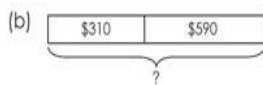
|       |
|-------|
| \$310 |
|-------|

  
 Brother 

|   |       |
|---|-------|
| ? |       |
|   | \$280 |

  
 $\$310 + \$280 = \$590$   
 Her brother saves **\$590**.

$$\begin{array}{r} 3\ 1\ 0 \\ +2\ 8\ 0 \\ \hline 5\ 9\ 0 \end{array}$$

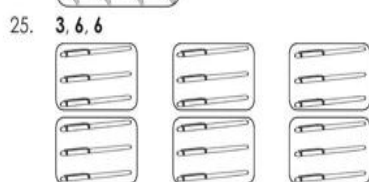
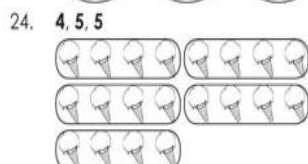
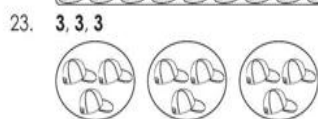


$\$310 + \$590 = \$900$   
They save **\$900** altogether.

$$\begin{array}{r} 1 \\ 310 \\ + 590 \\ \hline 900 \end{array}$$

#### Unit 4: Multiplying and Dividing

1. **12, 12**  
 $2 + 2 + 2 + 2 + 2 = 12$
2. **20, 20**  
 $4 + 4 + 4 + 4 + 4 = 20$
3. **21, 21**  
 $3 + 3 + 3 + 3 + 3 + 3 = 21$
4. **25, 25**  
 $5 + 5 + 5 + 5 + 5 = 25$
5. **27, 27**  
 $9 + 9 + 9 = 27$
6. **3, 3, 3, 3, 3, 3 = 18**
7. **2, 2, 2, 2, 2 = 10**
8. **4, 4, 4 = 12**
9. **5, 5, 5, 5, 5, 5, 5 = 40**
10. **4, 4, 4, 4 = 16**
11. **2, 14**
12. **4, 20**
13. **8, 16**
14. **3, 15**
15. **4, 16**
16. **6, 3, 18, 18**
17. **8, 10, 80, 80**
18. **3, 4, 12, 12**
19. **5, 5, 25, 25**
20. **5, 7, 35, 35**
21. **3, 4, 4**

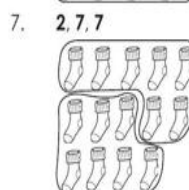


26.  $8 \times 2 = 16$        $2 \times 8 = 16$   
 $16 \div 8 = 2$        $16 \div 2 = 8$
27.  $3 \times 7 = 21$        $7 \times 3 = 21$

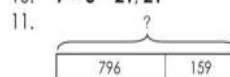
28.  $21 \div 3 = 7$        $21 \div 7 = 3$   
 $3 \times 6 = 18$        $6 \times 3 = 18$   
 $18 \div 3 = 6$        $18 \div 6 = 3$
29.  $6 \times 4 = 24$        $4 \times 6 = 24$   
 $24 \div 6 = 4$        $24 \div 4 = 6$
30.  $4 \times 3 = 12$        $3 \times 4 = 12$   
 $12 \div 4 = 3$        $12 \div 3 = 4$

#### Review 2

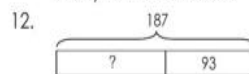
1. **14, 14**  
 $2 + 2 + 2 + 2 + 2 + 2 = 14$
2. **3, 3, 3, 3, 3, 3, 3, 3, 3, 3 = 27**
3.  $4 \times 3 = 12$        $3 \times 4 = 12$   
 $12 \div 4 = 3$        $12 \div 3 = 4$
4.  $5 \times 2 = 10$        $2 \times 5 = 10$   
 $10 \div 5 = 2$        $10 \div 2 = 5$
5. **3, 5, 5**



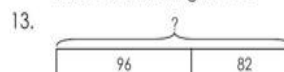
8.  $3 \times 6 = 18, 18$
9.  $4 \times 5 = 20, 20$
10.  $7 \times 3 = 21, 21$



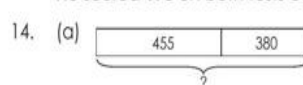
$796 + 159 = 955$   
Abby has **955** stickers.



$187 - 93 = 94$   
She has **94** oranges left.



$96 + 82 = 178$   
He scored **178** on both tests combined.



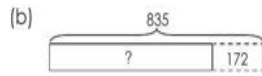
$455 + 380 = 835$   
She baked **835** cookies during the weekend.

$$\begin{array}{r} 11 \\ 796 \\ + 159 \\ \hline 955 \end{array}$$

$$\begin{array}{r} 018 \\ 187 \\ - 93 \\ \hline 94 \end{array}$$

$$\begin{array}{r} 96 \\ + 82 \\ \hline 178 \end{array}$$

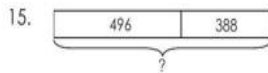
$$\begin{array}{r} 1 \\ 455 \\ + 380 \\ \hline 835 \end{array}$$



$$835 - 172 = 663$$

She had **663** cookies left.

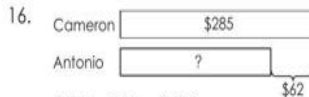
$$\begin{array}{r} 7\ 13 \\ 8\ 3\ 5 \\ - 1\ 7\ 2 \\ \hline 6\ 6\ 3 \end{array}$$



$$496 + 388 = 884$$

They have **884** books in all.

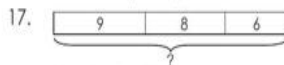
$$\begin{array}{r} 1\ 1 \\ 4\ 9\ 6 \\ + 3\ 8\ 8 \\ \hline 8\ 8\ 4 \end{array}$$



$$\$285 - \$62 = \$223$$

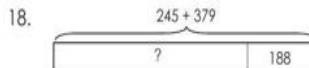
Antonio spent **\$223**.

$$\begin{array}{r} 2\ 8\ 5 \\ - 6\ 2 \\ \hline 2\ 2\ 3 \end{array}$$



$$9 + 8 + 6 = 23$$

The 3 boys have **23** marbles altogether.

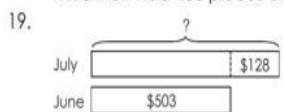


$$245 + 379 = 624$$

$$624 - 188 = 436$$

Mr. Simon had **436** pieces of fruit left.

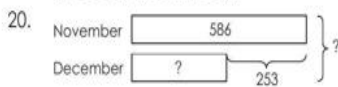
$$\begin{array}{r} 1\ 1 \\ 2\ 4\ 5 \\ + 3\ 7\ 9 \\ \hline 6\ 2\ 4 \end{array} \quad \begin{array}{r} 5\ 11\ 14 \\ 8\ 2\ 4 \\ - 1\ 8\ 8 \\ \hline 4\ 3\ 6 \end{array}$$



$$\$503 + \$128 = \$631$$

She spent **\$631** in July.

$$\begin{array}{r} 1 \\ 5\ 0\ 3 \\ + 1\ 2\ 8 \\ \hline 6\ 3\ 1 \end{array}$$



$$586 - 253 = 333$$

$$586 + 333 = 919$$

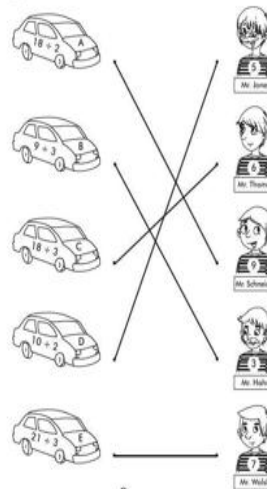
**919** visitors went to the zoo in these 2 months.

$$\begin{array}{r} 1 \\ 5\ 8\ 6 \\ - 2\ 5\ 3 \\ \hline 3\ 3\ 3 \end{array} \quad \begin{array}{r} 5\ 8\ 6 \\ + 3\ 3\ 3 \\ \hline 9\ 1\ 9 \end{array}$$

#### Unit 5: Multiplying and Dividing Numbers by 2 and 3

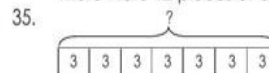
1. **6, 8, 12**
2. **9, 12, 18**
3. **8**
4. **12**
5. **15**
6. **16**
7. **27**
8. **9**
9. **21**
10. **18**
11. **18**
12. **10**
13. **10**
14. **5**
15. **6**
16. **3**

17. **6**
18. **9**
19. **5**
20. **4**
21. **8**
22. **9**
23. **10**
24. **7**
25. **8**
26. **6**
27. **7**
28. **4**
29. **6**
30. **5**
31. **5**
32. **8**
- 33.



$$4 \times 3 = 12$$

There were **12** pieces of cakes altogether.



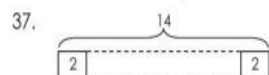
$$7 \times 3 = 21$$

There are **21** stars altogether.



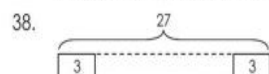
$$15 \div 3 = 5$$

There are **5** tricycles.



$$14 \div 2 = 7$$

She gave the muffins to **7** friends.



$$27 \div 3 = 9$$

She will need **9** bags.

39. (a) **8**



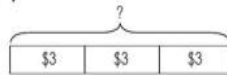
$$4 \times \$2 = \$8$$

- (b) **4**



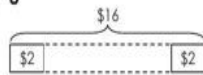
$$\$12 \div \$3 = 4$$

- (c) **9**



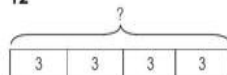
$$3 \times \$3 = \$9$$

- (d) **8**



$$\$16 \div \$2 = 8$$

- (e) **12**



$$4 \times 3 = 12$$

- 40.

|    |   |   |   |    |
|----|---|---|---|----|
| 12 | ÷ | 2 | = | 6  |
| ÷  |   |   |   | ×  |
| 6  | ÷ | 2 | = | 3  |
| =  |   |   |   | =  |
| 2  | × | 9 | = | 18 |

#### Unit 6: Multiplying and Dividing Numbers by 4, 5, and 10

|    |                  |   |   |           |          |           |
|----|------------------|---|---|-----------|----------|-----------|
| 1. | Number of cars   | 1 | 2 | 4         | <b>7</b> | 9         |
|    | Number of wheels | 4 | 8 | <b>16</b> | 28       | <b>36</b> |

$$4 \times 4 = 16 \quad 28 \div 4 = 7 \quad 9 \times 4 = 36$$

|    |                   |    |          |           |          |           |
|----|-------------------|----|----------|-----------|----------|-----------|
| 2. | Number of hands   | 2  | <b>4</b> | 6         | <b>9</b> | 10        |
|    | Number of fingers | 10 | 20       | <b>30</b> | 45       | <b>50</b> |

$$20 \div 5 = 4 \quad 6 \times 5 = 30 \quad 45 \div 5 = 9 \quad 10 \times 5 = 50$$

|    |                   |    |          |           |           |           |
|----|-------------------|----|----------|-----------|-----------|-----------|
| 3. | Number of vases   | 3  | <b>5</b> | 7         | 8         | <b>10</b> |
|    | Number of flowers | 30 | 50       | <b>70</b> | <b>80</b> | 100       |

$$50 \div 10 = 5 \quad 7 \times 10 = 70 \quad 8 \times 10 = 80 \quad 100 \div 10 = 10$$

4. **24**

5. **15**

6. **30**

7. **45**

8. **30**

9. **80**

10. **36**

11. **70**

12. **8**

13. **35**

14. **6**

15. **2**

16. **4**

17. **8**

18. **6**

19. **9**

20. **3**

21. **10**

22. **2**

23. **4**

24.  **$5 \times 4 = 20$**

$$20 \div 5 = 4$$

- $4 \times 5 = 20$**

$$20 \div 4 = 5$$

25.  **$6 \times 4 = 24$**

$$24 \div 6 = 4$$

- $4 \times 6 = 24$**

$$24 \div 4 = 6$$

26.  **$7 \times 10 = 70$**

$$70 \div 7 = 10$$

- $10 \times 7 = 70$**

$$70 \div 10 = 7$$

27.  **$8 \times 5 = 40$**

$$40 \div 8 = 5$$

- $5 \times 8 = 40$**

$$40 \div 5 = 8$$

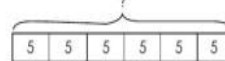
28.  **$3 \times 4 = 12$**

$$12 \div 3 = 4$$

- $4 \times 3 = 12$**

$$12 \div 4 = 3$$

- 29.



$$6 \times 5 = 30$$

There are **30** apples altogether.

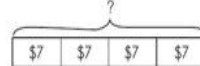
- 30.



$$8 \times \$10 = \$80$$

Sam spends **\$80** in 8 weeks.

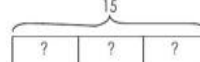
- 31.



$$4 \times \$7 = \$28$$

Leyla spent **\$28** altogether.

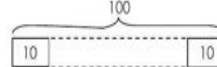
- 32.



$$15 \div 3 = 5$$

There are **5** buttons on each shirt.

- 33.



$$100 \div 10 = 10$$

Alicia needs **10** bags.

- 34.

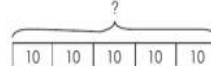


$$10 \times \$5 = \$50$$

Maggy will save **\$50** in 10 months.

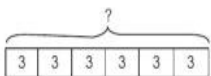
#### Unit 7: Fun With Models (Multiplying and Dividing)

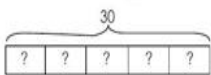
- 1.

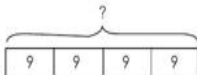


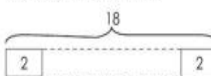
$$5 \times 10 = 50$$

There are **50** stamps in all.

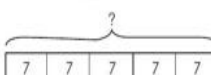
2.   
 $6 \times 3 = 18$   
 There are **18** eggs in 6 bags.

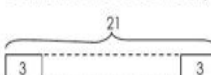
3.   
 $30 \div 5 = 6$   
 Each of them has **6** oranges.

4.   
 $4 \times 9 = 36$   
 He buys **36** stickers.

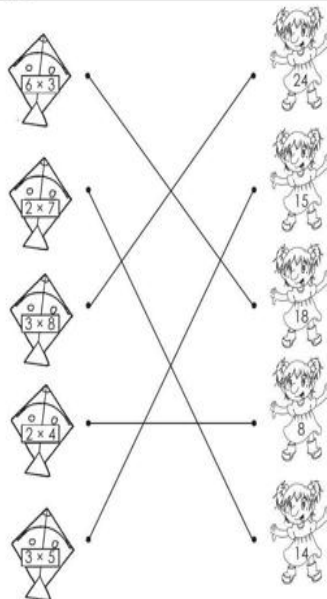
5.   
 $18 \div 2 = 9$   
 There were **9** sunflowers in each vase.

6.   
 $36 \div 4 = 9$   
 Ms. Drew gave the markers to **9** children.

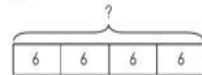
7.   
 $5 \times 7 = 35$   
 5 children have **35** library books.

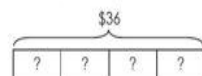
8.   
 $21 \div 3 = 7$   
 She used **7** plates.

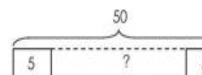
### Review 3

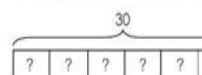
1. 

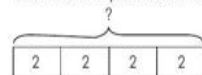
6. **8**  
 7. **9**  
 8. **6**  
 9. **8**  
 10. **7**  
 11. **4**  
 12. **2**  
 13. **3**  
 14. **5**  
 15. **10**  
 16.

-   
 $4 \times 6 = 24$   
 There are **24** pencils in 4 boxes.

17.   
 $\$36 \div 4 = \$9$   
 Each of them received **\$9**.

18.   
 $50 \div 5 = 10$   
 Dad gives the muffins to **10** friends.

19.   
 $30 \div 6 = 5$   
 There are **5** pieces of each color.

20.   
 $4 \times 2 = 8$   
 She buys **8** gloves.

### Unit 8: Length

1. **more**  
 2. **less**  
 3. **less**  
 4. **more**  
 5. **less**  
 6. (a) **A**  
 (b) **B**  
 (c)  $4 \text{ yd.} - 2 \text{ yd.} = 2 \text{ yd.}$   
 (d)  $6 \text{ yd.} - 4 \text{ yd.} = 2 \text{ yd.}$   
 (e)  $6 \text{ yd.} - 4 \text{ yd.} = 2 \text{ yd.}$   
 (f)  $6 \text{ yd.} - 2 \text{ yd.} = 4 \text{ yd.}$   
 7. (a) **C**  
 (b) **B**  
 (c)  $5 \text{ m} - 3 \text{ m} = 2 \text{ m}$   
 (d)  $3 \text{ m} - 1 \text{ m} = 2 \text{ m}$   
 (e)  $5 \text{ m} - 1 \text{ m} = 4 \text{ m}$   
 (f)  $5 \text{ m} - 3 \text{ m} = 2 \text{ m}$   
 8. Lines should be the appropriate lengths and labeled correctly.  
 9. Lines should be the appropriate lengths and labeled correctly.

10. Lines should be the appropriate lengths and labeled correctly.

11. **5**

12. **3**

13. **4**

14. **2**

15. **longer than**

16. **longer than**

17. **shorter than**

18. (a)  $9\text{ cm} - 2\text{ cm} = 7\text{ cm}$   
 (b)  $13\text{ cm} - 10\text{ cm} = 3\text{ cm}$   
 (c)  $11\text{ cm} - 6\text{ cm} = 5\text{ cm}$   
 (d)  $10\text{ cm} - 0\text{ cm} = 10\text{ cm}$   
 (e)  $10\text{ cm} - 3\text{ cm} = 7\text{ cm}$   
 (f)  $7\text{ cm} - 5\text{ cm} = 2\text{ cm}$

(g) **pencil**

(h) **eraser**

19. (a)  $8\text{ in.} - 0\text{ in.} = 8\text{ in.}$   
 (b)  $5\text{ in.} - 0\text{ in.} = 5\text{ in.}$   
 (c)  $12\text{ in.} - 0\text{ in.} = 12\text{ in.}$   
 (d)  $9\text{ in.} - 0\text{ in.} = 9\text{ in.}$   
 (e) **C**  
 (f) **B**  
 (g)  $12\text{ in.} - 8\text{ in.} = 4\text{ in.}$   
 (h) **C**  
 $9\text{ in.} + 3\text{ in.} = 12\text{ in.}$

20. 
$$\begin{array}{r} 116 \\ + 78 \\ \hline 194 \end{array}$$

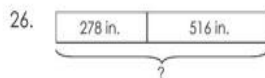
21. 
$$\begin{array}{r} 36 \\ - 89 \\ \hline 36 \end{array}$$

22. 
$$\begin{array}{r} 515 \\ + 279 \\ \hline 794 \end{array}$$

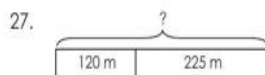
23. 
$$\begin{array}{r} 150 \\ - 318 \\ \hline 150 \end{array}$$

24. 
$$\begin{array}{r} 135 \\ - 65 \\ \hline 135 \end{array}$$

25. 
$$\begin{array}{r} 520 \\ + 121 \\ \hline 641 \end{array}$$



$278 + 516 = 794$   
 The total length of curtains Miles sewed on both days was **794 in.**

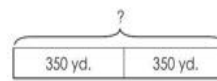


$120 + 225 = 345$   
 She travels **345 m.**

$$\begin{array}{r} 278 \\ + 516 \\ \hline 794 \end{array}$$

$$\begin{array}{r} 120 \\ + 225 \\ \hline 345 \end{array}$$

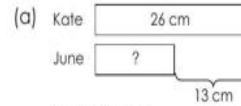
28.



$350 + 350 = 700$   
 He jogs **700 yd.**

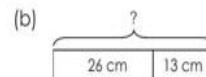
$$\begin{array}{r} 350 \\ + 350 \\ \hline 700 \end{array}$$

29. (a)



$26 - 13 = 13$   
 June's ribbon is **13 cm** long.

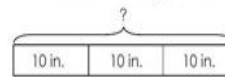
$$\begin{array}{r} 26 \\ - 13 \\ \hline 13 \end{array}$$



$26 + 13 = 39$   
 The total length of the 2 ribbons is **39 cm** long.

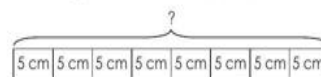
$$\begin{array}{r} 26 \\ + 13 \\ \hline 39 \end{array}$$

30.



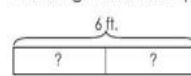
$3 \times 10 = 30$   
 The length of the 3 boxes was **30 in.**

31.



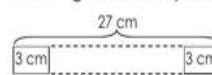
$8 \times 5 = 40$   
 The length of 8 toothpicks was **40 cm.**

32.



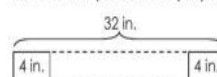
$6 \div 2 = 3$   
 The length of each piece of rope is **3 ft.**

33.



$27 \div 3 = 9$   
 Leo has **9** pieces of paper.

34.



$32 \div 4 = 8$   
 Gabrielle has **8** pieces of string.

#### Unit 9: Mass

- less than**  
The toy ship rises on the balance, so it is lighter.
- more than**  
The camera sinks on the balance, so it is heavier.
- less than**
- more than**
- more than**
- 3**
- 45**
- 6**
- 4**
- 6**
- (a) **4**  
 (b) **5**  
 (c) **2**

- (d) bunch of bananas  
(e) pineapple  
(f) bunch of bananas, watermelon, pineapple
12. (a) 171  
(b) 135  
(c) 38  
(d) Anne  
(e) Alan  
(f) Anne, Susan, Alan

13. 4

14. 6

15. 20

16. 9

17. 19

18. 200 g

19. 450 g

20. 50 g

21. 380 g

22.  $500 \text{ g} - 300 \text{ g} = 200 \text{ g}$

23.  $30 \text{ lb.} - 10 \text{ lb.} = 20 \text{ lb.}$

24. (a)  $20 \text{ oz.} + 20 \text{ oz.} = 40 \text{ oz.}$

(b)  $10 \text{ oz.} + 10 \text{ oz.} = 20 \text{ oz.}$

(c)  $40 \text{ oz.} - 20 \text{ oz.} = 20 \text{ oz.}$

25. (a) 200 g

(b) 500 g

(c)  $500 - 200 = 300 \text{ g}$

26. (b) 35 oz.

$$\begin{array}{r} 20 \\ + 15 \\ \hline 35 \end{array}$$

(c) 610 g

$$\begin{array}{r} 1 \\ 360 \\ + 250 \\ \hline 610 \end{array}$$

(d) 530 lb.

$$\begin{array}{r} 1 \\ 170 \\ + 360 \\ \hline 530 \end{array}$$

(e) 650 kg

$$\begin{array}{r} 1 \\ 415 \\ + 235 \\ \hline 650 \end{array}$$

(f) 646 lb.

$$\begin{array}{r} 1 \\ 509 \\ + 137 \\ \hline 646 \end{array}$$

(g) 861 g

$$\begin{array}{r} 1 \\ 816 \\ + 45 \\ \hline 861 \end{array}$$

**HAMSTER**

27. (a) 353 oz.

$$\begin{array}{r} 585 \\ - 232 \\ \hline 353 \end{array}$$

(b) 309 g

$$\begin{array}{r} 016 \\ 618 \\ - 307 \\ \hline 309 \end{array}$$

(c) 450 lb.

$$\begin{array}{r} 810 \\ 900 \\ - 450 \\ \hline 450 \end{array}$$

(d) 189 kg

$$\begin{array}{r} 216 \\ 389 \\ - 180 \\ \hline 189 \end{array}$$

(e) 199 lb.

$$\begin{array}{r} 7128 \\ 838 \\ - 639 \\ \hline 199 \end{array}$$

(f) 115 g

$$\begin{array}{r} 110 \\ 620 \\ - 505 \\ \hline 115 \end{array}$$

(g) 149 oz.

$$\begin{array}{r} 11316 \\ 248 \\ - 97 \\ \hline 149 \end{array}$$

### PUZZLES

28.  $\begin{array}{|c|c|c|} \hline 50 \text{ kg} & 14 \text{ kg} & 13 \text{ kg} \\ \hline \end{array}$   $\begin{array}{r} 50 \\ + 14 \\ \hline 64 \end{array}$   $\begin{array}{r} 64 \\ + 13 \\ \hline 77 \end{array}$

$50 + 14 + 13 = 77$

She uses **77** kg of ingredients altogether.

29. Tom  $\begin{array}{|c|} \hline ? \\ \hline \end{array}$   $\begin{array}{r} 43 \\ + 10 \\ \hline 53 \end{array}$   
Aidan  $\begin{array}{|c|} \hline 43 \text{ lb.} \\ \hline \end{array}$   $\begin{array}{|c|} \hline 10 \text{ lb.} \\ \hline \end{array}$

$43 + 10 = 53$

Tom's mass is **53** lb.

30.  $\begin{array}{|c|c|} \hline 27 \text{ kg} & ? \\ \hline \end{array}$   $\begin{array}{r} 713 \\ 83 \\ - 27 \\ \hline 56 \end{array}$   
 $\begin{array}{|c|} \hline 83 \text{ kg} \\ \hline \end{array}$

$83 - 27 = 56$

He uses **56** kg of cement.

31. Angela's family  $\begin{array}{|c|} \hline 13 \text{ oz.} \\ \hline \end{array}$   
Noah's family  $\begin{array}{|c|} \hline ? \\ \hline \end{array}$   $\begin{array}{|c|} \hline 4 \text{ oz.} \\ \hline \end{array}$

$13 - 4 = 9$

Noah's family eats **9** oz. of rice every week.

32.  $\begin{array}{|c|c|} \hline 380 \text{ g} & ? \\ \hline \end{array}$   $\begin{array}{r} 814 \\ 945 \\ - 380 \\ \hline 565 \end{array}$   
 $\begin{array}{|c|} \hline 945 \text{ g} \\ \hline \end{array}$

$945 - 380 = 565$

She bought **565** g of fish.

33.  $\begin{array}{|c|c|c|} \hline ? & & \\ \hline \end{array}$   $\begin{array}{|c|c|c|} \hline 2 \text{ lb.} & 2 \text{ lb.} & 2 \text{ lb.} \\ \hline \end{array}$   
 $3 \times 2 \text{ lb.} = 6 \text{ lb.}$   
The total mass of the 3 bags of tomatoes was **6** lb.

34.  $\begin{array}{|c|c|} \hline 20 \text{ kg} & \\ \hline \end{array}$   $\begin{array}{|c|c|} \hline 5 \text{ kg} & 5 \text{ kg} \\ \hline \end{array}$   
 $20 \div 5 = 4$   
Colin bought **4** bags of flour.

35.  $\begin{array}{|c|c|c|c|c|c|c|c|c|c|} \hline ? & & & & & & & & & \\ \hline \end{array}$   $\begin{array}{|c|c|c|c|c|c|c|c|c|c|} \hline 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} & 4 \text{ oz.} \\ \hline \end{array}$   
 $10 \times 4 = 40$   
The total mass of the 10 plums is **40** oz.

36.  $\begin{array}{|c|c|c|c|} \hline 12 \text{ kg} & & & \\ \hline \end{array}$   $\begin{array}{|c|c|c|c|} \hline ? & ? & ? & ? \\ \hline \end{array}$   
 $12 \div 4 = 3$   
The mass of each bag of strawberries was **3** kg.

#### Review 4

- 6 cm - 1 cm = **5** cm
  - 10 cm - 1 cm = **9** cm
  - 12 cm - 1 cm = **11** cm
  - 3 cm - 1 cm = **2** cm
  - 11 cm - 9 cm = **2** cm
  - 5 cm - 2 cm = **3** cm
  - 5 cm + 11 cm = **16** cm
  - rubber band, hair clip, ribbon, comb**
- 2**
- A**
- 400**
- 6 cm - 1 cm = **5** cm
  - 11 cm - 1 cm = **10** cm
  - 8 cm - 1 cm = **7** cm
  - 8 cm - 1 cm = **7** cm
  - 7 cm - 5 cm = **2** cm
  - 10 cm - 7 cm = **3** cm
  - spoon, fork**
  - paintbrush, spoon, fork, key / paintbrush, fork, spoon, key**
- 17**
- 3**
  - 4**
  - 2**
  - toy plane**
  - toy ship**
- C**
- more than**  
The bag of rice sinks on the balance. This shows that the bag of rice is heavier.
- less than**  
The purse rises on the balance. This shows that the purse is lighter.
- 108**

$$\begin{array}{r} 40 \\ + 68 \\ \hline 108 \end{array}$$
- 356**

$$\begin{array}{r} 31215 \\ \times 35 \\ \hline 15675 \\ + 10860 \\ \hline 123675 \end{array}$$
- 289**

$$\begin{array}{r} 51016 \\ \times 16 \\ \hline 32736 \\ + 28900 \\ \hline 453936 \end{array}$$
- 350**

$$\begin{array}{r} 125 \\ + 225 \\ \hline 350 \end{array}$$
- 772**

$$\begin{array}{r} 609 \\ + 163 \\ \hline 772 \end{array}$$
- $$\begin{array}{r} 525 \text{ m} \\ - 360 \text{ m} \\ \hline 165 \end{array}$$

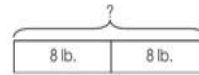
525 - 360 = 165

David's house is **165** m farther from the shopping complex than from the supermarket.
- $$\begin{array}{r} 375 \text{ yd.} \\ + 425 \text{ yd.} \\ \hline 800 \end{array}$$

$$375 + 425 = 800$$

Amanda jogs **800** yd. from her house to the stadium.

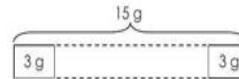
18.



$$2 \times 8 = 16$$

The total mass of her luggage was **16** lb.

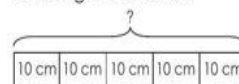
19.



$$15 \div 3 = 5$$

He bought **5** cherries.

20.



$$5 \times 10 = 50$$

The length of the 5 rulers was **50** cm.

#### Mid-Review

- 11 - 3 = **8** in.
  - 7 - 2 = **5** in.
  - 11 - 2 = **9** in.
  - 15 - 5 = **10** in.
  - A = 8 - 1 = **7** in.  
7 + 5 = **12** in.
  - E, D, B, A, C**
- 18**
- six hundred and forty-seven**
- 303, 330, 405, 415, 540**
- $3 \times 9 = 27$
- $237 + 508 = 745$ 

$$\begin{array}{r} 237 \\ + 508 \\ \hline 745 \end{array}$$
- $717 - 169 = 548$ 

$$\begin{array}{r} 717 \\ - 169 \\ \hline 548 \end{array}$$
- $10 + 590 = 600$
- $120 + 10 = 130$
- $6 \times 2 = 12$        $12 \div 6 = 2$   
 $2 \times 6 = 12$        $12 \div 2 = 6$
- 680, 740**  
 $720 - 700 = 20$   
 $660 + 20 = 680$   
 $720 + 20 = 740$
- 4, 6, 6**
- 173 cm**

$$\begin{array}{r} 105 \\ + 68 \\ \hline 173 \end{array}$$
  - 16 lb.**

$$\begin{array}{r} 212 \\ \times 32 \\ \hline 424 \\ + 384 \\ \hline 672 \end{array}$$
  - $8 \times 3 = 24$

- (d) **870**
- $$\begin{array}{r} 612 \\ + 258 \\ \hline 870 \end{array}$$
- (e) **175**
- $$\begin{array}{r} 290 \\ - 115 \\ \hline 175 \end{array}$$
14. (a) **83 fewer yellow roses**  
 $280 - 197 = 83$
- $$\begin{array}{r} 1710 \\ 280 \\ - 197 \\ \hline 83 \end{array}$$
- (b) **595 red and white roses**  
 $315 + 280 = 595$
- $$\begin{array}{r} 315 \\ + 280 \\ \hline 595 \end{array}$$
15. **\$16**  
 $\$65 - \$49 = \$16$
- $$\begin{array}{r} 515 \\ 65 \\ - 49 \\ \hline 16 \end{array}$$
16. **460 cm of cloth**  
 $185 + 275 = 460$
- $$\begin{array}{r} 11 \\ 185 \\ + 275 \\ \hline 460 \end{array}$$
17. **7 cards**  
 $35 \div 5 = 7$
- $$\begin{array}{r} 460 \\ - 150 \\ \hline 310 \end{array}$$
18. (a) **310 dog biscuits**  
 $460 - 150 = 310$
- $$\begin{array}{r} 460 \\ - 150 \\ \hline 310 \end{array}$$
- (b) **770 dog biscuits**  
 $460 + 310 = 770$
- $$\begin{array}{r} 460 \\ + 310 \\ \hline 770 \end{array}$$
19. **21 cacti**  
 $3 \times 7 = 21$
20. **330 yd.**  
 $150 \text{ yd.} + 180 \text{ yd.} = 330 \text{ yd.}$
- $$\begin{array}{r} 150 \\ + 180 \\ \hline 330 \end{array}$$
- 21.
- ?
- |      |      |      |      |      |
|------|------|------|------|------|
| 10 g | 10 g | 10 g | 10 g | 10 g |
|------|------|------|------|------|
- $5 \times 10 = 50$   
The mass of the 5 kiwis is **50 g**.
- 22.
- 32
- |   |  |   |
|---|--|---|
| 4 |  | 4 |
|---|--|---|
- $32 \div 4 = 8$   
Mrs. Coleman collected the pages from **8** students.
- 23.
- |     |     |     |     |     |
|-----|-----|-----|-----|-----|
| \$2 | \$2 | \$2 | \$2 | \$2 |
|-----|-----|-----|-----|-----|
- ?
- $5 \times \$2 = \$10$   
She receives **\$10** from Monday to Friday.
- 24.
- 9 yd.
- |   |   |   |
|---|---|---|
| ? | ? | ? |
|---|---|---|
- $9 \div 3 = 3$   
The length of cloth received by each girl was **3 yd**.
- 25.
- ?
- |   |   |   |
|---|---|---|
| 4 | 4 | 4 |
|---|---|---|
- $3 \times 4 = 12$   
He needs **12 days** to make 3 bookshelves.

### Challenge Questions

- first digit: ⑧ or 9  
second digit: 0, ①, 2, 3, 4, 5 or 6  
third digit:  $8 - 1 = 7$   
The 3-digit number is **817**.
- Use the guess-and-check method.

| Guess | \$50 | \$10 | \$5 | \$1 | Total |
|-------|------|------|-----|-----|-------|
| 1     | 1    | 6    | 3   | 1   | \$126 |
| 2     | 1    | 7    | 1   | 1   | \$126 |

He used **one \$50 bill, seven \$10 bills, one \$5 bill, and one \$1 bill** to pay for the skateboard.

- Gina: 

|   |
|---|
| 2 |
|---|

  
Deepak: 

|   |   |   |
|---|---|---|
| 2 | 2 | 2 |
|---|---|---|

  
Jessica: 

|   |   |
|---|---|
| 6 | 6 |
|---|---|

$$2 \times 6 = 12$$

Jessica has **12** apples.

- 0 1 2 ③ 4 5 6 7 8 ⑨

9 is 3 times 3.  
Both are odd numbers.  
Mr. Schneider's mass is **93 kg**.

- $9 \div 3 = 3$   
The sum of the 2 facing pages must be 9.  
page 4 + page 5 = 9  
The 2 facing pages are **4** and **5**.

- Tyler: 

|  |
|--|
|  |
|--|

  
Carlos: 

|  |
|--|
|  |
|--|

  
Danny: 

|  |
|--|
|  |
|--|

**Carlos** has the shortest ruler.

- Jenna: 

|   |
|---|
| ? |
|---|

  
Mother gave: 

|  |
|--|
|  |
|--|

  
Father gave: 

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

$$27 \div 9 = 3$$

She had **3** marbles in the beginning.

- $\$100 - \$20 = \$80$   
 $\$80 \div 4 = \$20$   
He would receive four \$20 bills.  
Simon had one **\$100 bill** in the beginning.

- $2 + 3 + 4 = 9$   
The 3 numbers are **2, 3, and 4**.

- $3 \times 7 = 21$   
The sum of the 2 facing pages is 21.  
page 10 + page 11 = 21  
The 2 facing pages are **10** and **11**.

- Mia: 

|  |
|--|
|  |
|--|

  
Dante: 

|  |
|--|
|  |
|--|

  
Sierra: 

|  |
|--|
|  |
|--|

**Sierra** is the heaviest among the 3 children.

# SOLUTIONS

## Singapore Math Level 2B

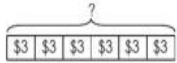
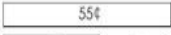
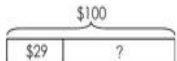
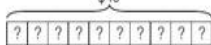
### Unit 10: Mental Calculations

1.  $64 + 10 = 74$   
 $74 - 2 = \mathbf{72}$
2.  $89 + 10 = 99$   
 $99 - 3 = \mathbf{96}$
3.  $26 + 10 = 36$   
 $36 - 5 = \mathbf{31}$
4.  $18 + 10 = 28$   
 $28 - 1 = \mathbf{27}$
5.  $57 + 10 = 67$   
 $67 - 4 = \mathbf{63}$
6.  $45 + 10 = 55$   
 $55 - 2 = \mathbf{53}$
7.  $37 + 10 = 47$   
 $47 - 5 = \mathbf{42}$
8.  $78 + 10 = 88$   
 $88 - 2 = \mathbf{86}$
9.  $94 + 10 = 104$   
 $104 - 1 = \mathbf{103}$
10.  $56 + 10 = 66$   
 $66 - 3 = \mathbf{63}$
11.  $127 + 10 = 137$   
 $137 - 5 = \mathbf{132}$
12.  $764 + 10 = 774$   
 $774 - 1 = \mathbf{773}$
13.  $2 + 6 = 8$   
 $260 + 8 = \mathbf{268}$
14.  $948 + 10 = 958$   
 $958 - 2 = \mathbf{956}$
15.  $435 + 10 = 445$   
 $445 - 3 = \mathbf{442}$
16.  $4 + 6 = 10$   
 $580 + 10 = \mathbf{590}$
17.  $623 + 10 = 633$   
 $633 - 1 = \mathbf{632}$
18.  $806 + 10 = 816$   
 $816 - 1 = \mathbf{815}$
19.  $366 + 10 = 376$   
 $376 - 5 = \mathbf{371}$
20.  $119 + 10 = 129$   
 $129 - 4 = \mathbf{125}$
21.  $3 + 6 = 9$   
 $510 + 9 = \mathbf{519}$
22.  $30 + 20 = 50$   
 $806 + 50 = \mathbf{856}$
23.  $20 + 80 = 100$   
 $703 + 100 = \mathbf{803}$
24.  $90 + 70 = 160$   
 $100 + 160 = \mathbf{260}$
25.  $20 + 40 = 60$   
 $408 + 60 = \mathbf{468}$
26.  $762 + 100 = 862$   
 $862 - 30 = \mathbf{832}$
27.  $503 + 100 = 603$   
 $603 - 10 = \mathbf{593}$
28.  $869 + 100 = 969$   
 $969 - 20 = \mathbf{949}$
29.  $20 + 60 = 80$   
 $603 + 80 = \mathbf{683}$
30.  $700 + 200 = 900$   
 $900 + 70 = \mathbf{970}$
31.  $300 + 600 = 900$   
 $900 + 23 = \mathbf{923}$
32.  $100 + 800 = 900$   
 $900 + 65 = \mathbf{965}$
33.  $200 + 500 = 700$   
 $700 + 48 = \mathbf{748}$
34.  $600 + 300 = 900$   
 $900 + 57 = \mathbf{957}$
35.  $100 + 700 = 800$   
 $800 + 95 = \mathbf{895}$
36.  $100 + 200 = 300$   
 $300 + 8 = \mathbf{308}$
37.  $500 + 400 = 900$   
 $900 + 88 = \mathbf{988}$
38.  $600 + 100 = 700$   
 $700 + 45 = \mathbf{745}$
39.  $100 + 600 = 700$   
 $700 + 99 = \mathbf{799}$
40.  $700 + 200 = 900$   
 $900 + 56 = \mathbf{956}$
41.  $52 - 10 = 42$   
 $42 + 5 = \mathbf{47}$
42.  $46 - 10 = 36$   
 $36 + 1 = \mathbf{37}$
43.  $81 - 10 = 71$   
 $71 + 2 = \mathbf{73}$
44.  $30 - 10 = 20$   
 $20 + 3 = \mathbf{23}$
45.  $8 - 3 = 5$   
 $80 + 5 = \mathbf{85}$
46.  $9 - 5 = 4$   
 $70 + 4 = \mathbf{74}$
47.  $4 - 4 = 0$   
 $60 + 0 = \mathbf{60}$
48.  $28 - 10 = 18$   
 $18 + 1 = \mathbf{19}$
49.  $3 - 1 = 2$   
 $90 + 2 = \mathbf{92}$
50.  $9 - 7 = 2$   
 $50 + 2 = \mathbf{52}$

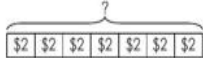
51.  $620 - 10 = 610$   
 $610 + 5 = \mathbf{615}$
52.  $404 - 10 = 394$   
 $394 + 4 = \mathbf{398}$
53.  $5 - 4 = 1$   
 $870 + 1 = \mathbf{871}$
54.  $10 - 2 = 8$   
 $730 + 8 = \mathbf{738}$
55.  $9 - 9 = 0$   
 $510 + 0 = \mathbf{510}$
56.  $264 - 10 = 254$   
 $254 + 3 = \mathbf{257}$
57.  $9 - 6 = 3$   
 $320 + 3 = \mathbf{323}$
58.  $183 - 10 = 173$   
 $173 + 5 = \mathbf{178}$
59.  $6 - 3 = 3$   
 $910 + 3 = \mathbf{913}$
60.  $534 - 10 = 524$   
 $524 + 2 = \mathbf{526}$
61.  $415 - 100 = 315$   
 $315 + 70 = \mathbf{385}$
62.  $338 - 100 = 238$   
 $238 + 10 = \mathbf{248}$
63.  $80 - 60 = 20$   
 $507 + 20 = \mathbf{527}$
64.  $60 - 50 = 10$   
 $800 + 10 = \mathbf{810}$
65.  $100 - 10 = 90$   
 $509 + 90 = \mathbf{599}$
66.  $80 - 20 = 60$   
 $201 + 60 = \mathbf{261}$
67.  $50 - 40 = 10$   
 $708 + 10 = \mathbf{718}$
68.  $90 - 70 = 20$   
 $405 + 20 = \mathbf{425}$
69.  $164 - 100 = 64$   
 $64 + 20 = \mathbf{84}$
70.  $626 - 100 = 526$   
 $526 + 40 = \mathbf{566}$
71.  $700 - 300 = 400$   
 $400 + 58 = \mathbf{458}$
72.  $800 - 600 = 200$   
 $200 + 34 = \mathbf{234}$
73.  $900 - 800 = 100$   
 $100 + 5 = \mathbf{105}$
74.  $600 - 500 = 100$   
 $100 + 31 = \mathbf{131}$
75.  $900 - 900 = 0$   
 $0 + 78 = \mathbf{78}$
76.  $500 - 100 = 400$   
 $400 + 5 = \mathbf{405}$
77.  $700 - 400 = 300$   
 $300 + 84 = \mathbf{384}$
78.  $400 - 200 = 200$   
 $200 + 35 = \mathbf{235}$
79.  $800 - 700 = 100$   
 $100 + 76 = \mathbf{176}$
80.  $900 - 800 = 100$   
 $100 + 80 = \mathbf{180}$

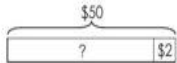
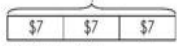
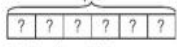
#### Unit 11: Money

1. (a) **\$10.00**  
(b) **\$2.50**  
(c) **\$44.40**  
(d) **\$39.85**  
(e) **\$67.90**  
(f) **\$50.05**  
(g) **\$19.70**  
(h) **87¢**  
(i) **\$12.15**  
(j) **\$20.25**
2. (a) **twelve, thirty**  
(b) **forty-five, forty-five**  
(c) **sixty-seven, five**  
(d) **fifteen, fifty-five**  
(e) **seven, ninety**  
(f) **eleven, eighty**  
(g) **thirty-six, sixty**  
(h) **twenty, fifteen**  
(i) **fifty-nine, ninety-five**  
(j) **seventy, seventy**
3.  $10¢ + 10¢ + 5¢ + 5¢ + 5¢ + 5¢ = \mathbf{40¢}$
4.  $\$5 + \$1 + \$1 + \$0.50 = \mathbf{\$7.50}$
5.  $(3 \times \$10) + (4 \times \$5) + \$0.25 + \$0.25 + \$0.10 + \$0.10 + \$0.05 + \$0.05 + \$0.05 = \mathbf{\$50.85}$
6.  $\$10 + \$5 + \$1 + (4 \times \$0.25) + \$0.10 = \mathbf{\$17.10}$
7.  $(2 \times \$5) + (4 \times \$1) + \$0.10 + (3 \times \$0.05) = \mathbf{\$14.25}$
8.  $50¢ + 10¢ = \mathbf{60¢}$
9.  $\$10.00 + \$0.50 = \mathbf{\$10.50}$
10.  $\$11.00 + \$0.10 = \mathbf{\$11.10}$
11.  $\$7.00 + \$0.05 = \mathbf{\$7.05}$
12.  $\$2.00 + \$0.40 = \mathbf{\$2.40}$
13. (a) **225**  
(b) **1,050**  
(c) **3,575**  
(d) **5,005**  
(e) **2,735**  
(f) **8,905**  
(g) **10,030**  
(h) **4,040**  
(i) **1,595**  
(j) **2,055**
14. (a) **4.16**  
(b) **18.75**  
(c) **30.05**  
(d) **8.05**  
(e) **17.50**  
(f) **9.60**  
(g) **10.05**  
(h) **76.00**  
(i) **0.18**  
(j) **0.59**
15. (a) **32.50, 26.50**  
(b) **George**
16. (a) **45.90, 55.85**  
(b) **Marcos**
17. (a) **67.80, 65.90**  
(b) **65.90, 67.80**  
(c) **Mrs. Morales**
18. (a) **19.60**  
(b) **26.50**  
(c) **Samira**  
(d) **Kate**

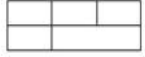
19.   
 $6 \times \$3 = \$18$   
 She paid **\$18** for the books.
20. peach   
 banana   
 $55¢ - 25¢ = 30¢$   
 $55¢ + 30¢ = 85¢$   
 The total cost of the peach and the banana is **85¢**.
21. Aunt Rose   
 Uncle James   
 $\$350 + \$190 = \$540$   
 Uncle James earns \$540 in a week.  
 $\$350 + \$540 = \$890$   
 Both of them earn **\$890** in a week.
22.   
 $\$100 - \$29 = \$71$   
 She received **\$71** in change.
23.   
 $\$40 \div 10 = \$4$   
 He spends **\$4** per day.

#### Review 5

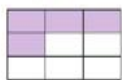
- \$99.09**
- $814 + 100 = 914$   
 $914 - 10 = 904$
- fifty-five, fifteen**
- $\$62.00 + \$0.55 = \$62.55$
- 6,285¢**
- $600 + 200 = 800$   
 $800 + 4 = 804$
- (a) **35.55, 30.05**  
 (b) **Jerome**
- $546 - 10 = 536$   
 $536 + 1 = 537$
- \$38.40**
- $743 - 100 = 643$   
 $643 + 40 = 683$
- $\$36.00 + \$0.10 = \$36.10$
- (a) **42, 45**  
 (b) **Uncle Sam**
- one hundred, ten**
- $686 + 10 = 696$   
 $696 - 5 = 691$
- $700 - 400 = 300$   
 $300 + 12 = 312$
-   
 $7 \times \$2 = \$14$   
 Emma saves **\$14** in a week.

17.   
 $\$50 - \$2 = \$48$   
 The calculator cost **\$48**.
18.   
 $\$49 + \$35 = \$84$   
 She spent **\$84** in all.
19.   
 $3 \times \$7 = \$21$   
 Uncle Ronald gives **\$21** to his children in all.
20.   
 $\$60 \div 6 = \$10$   
 Each towel costs **\$10**.

#### Unit 12: Fractions

-  ☒
-  ☐
-  ☒
-  ☐
- $\frac{1}{4}$
- $\frac{3}{8}$
- $\frac{2}{6}$
- $\frac{7}{12}$
- $\frac{4}{7}$

Possible answers:

- 
- 
- 
- 
- 

15. (a)  $\frac{2}{4}$   
 (b)  $\frac{4}{8}$   
 (c)  $\frac{2}{4}$   
 (d)  $\frac{2}{4}$
16. (a)  $\frac{4}{6}$   
 (b)  $\frac{6}{8}$   
 (c)  $\frac{4}{6}$   
 (d)  $\frac{2}{6}$
17. (a)  $\frac{4}{8}$   
 (b)  $\frac{4}{8}$
18. (a)  $\frac{2}{5}$   
 (b)  $\frac{2}{5}$
19. (a)  $\frac{6}{7}$   
 (b)  $\frac{6}{7}$
20. (a)  $\frac{6}{8}$   
 (b)  $\frac{2}{8}$   
 (c)  $\frac{6}{8}$   
 (d)  $\frac{2}{8}, \frac{6}{8}$
21. (a)  $\frac{2}{5}$   
 (b)  $\frac{3}{5}$   
 (c)  $\frac{2}{5}$   
 (d)  $\frac{3}{5}, \frac{2}{5}$
22.  $\frac{2}{3}$
23.  $\frac{1}{2}$
24.  $\frac{4}{7}$
25.  $\frac{7}{11}$
26.  $\frac{3}{12}$
27.  $\frac{3}{5}$
28.  $\frac{2}{8}$
29.  $\frac{6}{9}$
30.  $\frac{3}{4}$
31.  $\frac{5}{6}$
32.  $\frac{1}{2}$
33.  $\frac{3}{6}$
34.  $\frac{5}{7}$
35.  $\frac{2}{6}$

36.  $\frac{1}{5}$
37.  $\frac{6}{12}$
38.  $\frac{1}{8}$    
 $\frac{3}{8}$    
 $\frac{5}{8}$  
39.  $\frac{2}{6}$    
 $\frac{2}{8}$    
 $\frac{2}{10}$  
40.  $\frac{1}{4}$    
 $\frac{2}{4}$    
 $\frac{3}{4}$  
41.  $\frac{3}{9}$    
 $\frac{2}{9}$  
42.  $\frac{4}{5}$    
 $\frac{4}{8}$  
43.  $\frac{8}{10}$    
 $\frac{6}{10}$  
44.  $\frac{1}{5}$
45.  $\frac{2}{8}$
46.  $\frac{3}{8}$
47.  $\frac{2}{3}$
48.  $\frac{4}{5}$
49.  $\frac{7}{10}$
50.  $\frac{5}{5}$
51.  $\frac{1}{10}$

52.  $\frac{5}{7}$

53.  $\frac{1}{5}$

54.  $\frac{4}{7}$

55.  $\frac{3}{9}$

56.  $\frac{5}{6} + \frac{3}{6} + \frac{1}{6}$

57.  $\frac{2}{3} + \frac{2}{8} + \frac{2}{9}$

58.  $\frac{4}{10} + \frac{4}{11} + \frac{4}{12}$

59.  $\frac{1}{12} + \frac{1}{11} + \frac{1}{10}$

60.  $\frac{3}{9} + \frac{3}{6} + \frac{3}{5}$

61.  $\frac{5}{12} + \frac{5}{10} + \frac{5}{9}$

62.  $\frac{3}{8}$

63.  $\frac{7}{10}$

64.  $\frac{10}{12}$

65.  $\frac{6}{7}$

66.  $\frac{8}{9}$

67.  $\frac{4}{5}$

68.  $\frac{4}{6}$

69.  $\frac{6}{11}$

70.  $\frac{2}{4}$

71.  $\frac{2}{9}$

72.  $\frac{5}{7}$

73.  $\frac{9}{10}$

74.  $\frac{2}{6}$

75.  $\frac{3}{11}$

76.  $\frac{3}{8}$

77.  $\frac{3}{12}$

78.  $\frac{5}{5} - \frac{2}{5} = \frac{3}{5}$

$\frac{3}{5}$  of the bread is left.

79.  $\frac{1}{10} + \frac{3}{10} + \frac{1}{10} = \frac{5}{10}$

They have eaten  $\frac{5}{10}$  of the pizza.

80.  $\frac{1}{7} + \frac{3}{7} = \frac{4}{7}$

She used  $\frac{4}{7}$  of her weekly allowance.

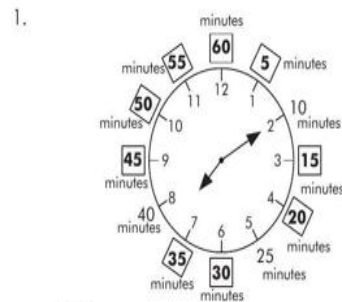
81.  $\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$

$\frac{5}{8}$  of the pitcher of orange juice was left.

82.  $\frac{1}{6} + \frac{3}{6} = \frac{4}{6}$

$\frac{4}{6}$  of the people at the party are children and women.

### Unit 13: Time



7:10

2.  $4 \times 5 \text{ minutes} = 20$

3.  $9 \times 5 \text{ minutes} = 45$

4.  $1 \times 5 \text{ minutes} = 5$

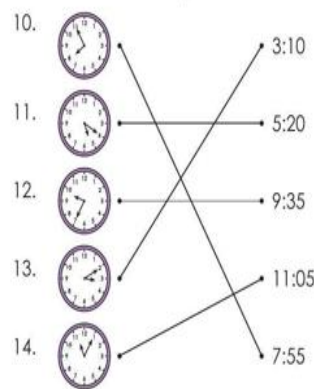
5.  $3 \times 5 \text{ minutes} = 15$

6. ten o'clock / 10:00

7. five-fifteen / 5:15

8. one-thirty / 1:30

9. twelve o'clock / 12:00



15. 
16. 
17. 
18. 
19. 
20. 
21. 
22. 
23. 
24. 
25. 
26. 
27. 
28. 
29. 
30. 

31. A.M.
32. P.M.
33. P.M.
34. A.M.
35. P.M.
36. 8:30,  
8 o'clock / 8:00
37. 5 o'clock / 5:00,  
4:30
38. 7:30, 6:30
39. 9 o'clock / 9:00,  
12 o'clock / 12:00
40. 6:15, 10:15
41. 11:00 A.M.



42. 7:00 P.M.



43. 5:00 A.M.



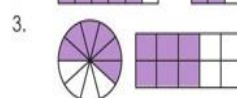
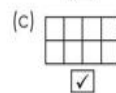
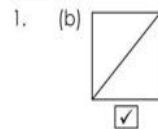
44. 4:00 P.M.



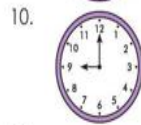
45. 12:00 noon



#### Review 6



4. 10:25  
5. 5:00 / 5 o'clock  
6. 8:55  
7. 7:30



12.  $\frac{6}{7}, \frac{5}{7}, \frac{1}{7}$

13.  $\frac{4}{8}, \frac{5}{8}, \frac{7}{8}$



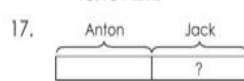
11 A.M.



1:30 P.M.

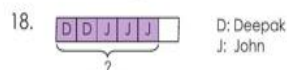


10:15 A.M.



$$1 - \frac{1}{2} = \frac{2}{2} - \frac{1}{2} = \frac{1}{2}$$

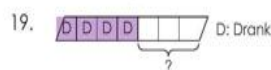
Jack ate  $\frac{1}{2}$  of the dish of nachos.



D: Deepak  
J: John

$$\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$$

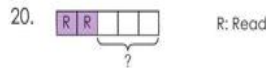
They ate  $\frac{5}{6}$  of the melon.



D: Drank

$$1 - \frac{4}{7} = \frac{7}{7} - \frac{4}{7} = \frac{3}{7}$$

$\frac{3}{7}$  of the milk was left in the glass.



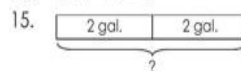
R: Read

$$1 - \frac{2}{5} = \frac{5}{5} - \frac{2}{5} = \frac{3}{5}$$

Tariq needs to read  $\frac{3}{5}$  of the book in order to complete it.

#### Unit 14: Volume

1. (a) more  
(b) less
2. (a) less  
(b) more
3. (a) D  
(b) B
4. (a) B  
(b) A
5. (a) D  
(b) B
6. (a) jug  
(b) bowl  
(c)  $5 - 2 = 3$   
(d)  $8 - 2 = 6$
7. 3
8. 5
9. 15
10. 2
11.  $1 + 1 + 1 = 3$
12.  $2 + 2 + 2 + 2 = 8$
13.  $2 + 2 = 4$
14.  $1 + 1 + 1 = 3$



$$2 \times 2 \text{ gal.} = 4 \text{ gal.}$$

The fish tank is filled with **4 gal.** of water.



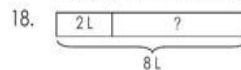
$$3 \text{ L} + 5 \text{ L} = 8 \text{ L}$$

They prepare **8 L** of drink altogether.



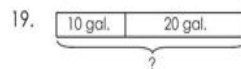
$$4 \text{ gal.} + 3 \text{ gal.} + 5 \text{ gal.} = 12 \text{ gal.}$$

The tank can hold **12 gal.** of water.



$$8 \text{ L} - 2 \text{ L} = 6 \text{ L}$$

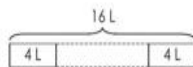
Ayesha has **6 L** of orange juice left.



$$10 \text{ gal.} + 20 \text{ gal.} = 30 \text{ gal.}$$

Mr. Benson put **30 gal.** of gas in his car in all.

20.



$16 \text{ L} \div 4 \text{ L} = 4$   
She used **4** jugs.

### Unit 15: Graphs

1. (a)  $4 \times 4 = 16$   
(b)  $6 \times 4 = 24$   
(c)  $2 \times 4 = 8$   
 $16 - 8 = 8$   
(d)  $3 \times 4 = 12$   
 $24 - 12 = 12$   
(e) **monkeys**  
(f) **lions**
2. (a) **Wednesday**  
(b)  $50 \div 5 = 10$   
(c)  $4 \times 10 = 40$   
(d)  $7 \times 10 = 70$   
 $70 - 40 = 30$   
(e)  $3 \times 10 = 30$   
 $40 - 30 = 10$   
(f)  $50 + 70 = 120$
3. Rabbits  $\rightarrow 6 \div 2 = 3\star$   
Turtles  $\rightarrow 10 \div 2 = 5\star$   
Fish  $\rightarrow 20 \div 2 = 10\star$   
Cats  $\rightarrow 8 \div 2 = 4\star$   
Birds  $\rightarrow 14 \div 2 = 7\star$

|         |         |      |      |       |
|---------|---------|------|------|-------|
|         |         |      |      |       |
| Rabbits | Turtles | Fish | Cats | Birds |

Each stands for 2 pets.

4. (a) **Coloring**  
 $7 \times 4 = 28$   
(b) **Fiction**  
 $3 \times 4 = 12$   
(c) **Coloring**  
 $6 \times 4 = 24$   
 $28 - 24 = 4$   
(d) **4**  
 $4 \times 4 = 16$   
 $16 - 12 = 4$   
(e) **12**  
 $28 - 16 = 12$
5. (a) **25**  
 $5 \times 5 = 25$   
(b) **20**  
Friday  $\rightarrow 7 \times 5 = 35$   
Tuesday  $\rightarrow 3 \times 5 = 15$   
 $35 - 15 = 20$   
(c) **8**  
 $2 \times 5 = 10$   
 $10 - 2 = 8$

(d) **95**

Saturday  $\rightarrow 9 \times 5 = 45$   
Sunday  $\rightarrow 10 \times 5 = 50$   
 $45 + 50 = 95$

(e) **9**

$5 \times 5 = 25$   
 $25 - 16 = 9$

### Review 7

1. **5**
2. **2**
3. **10**
4. (a)  $6 \times 3 = 18$   
(b)  $5 \times 3 = 15$   
(c) Roast chicken  $\rightarrow 3 \times 3 = 9$   
Tacos  $\rightarrow 6 \times 3 = 18$   
 $18 - 9 = 9$   
(d) Pizza  $\rightarrow 8 \times 3 = 24$   
Meatloaf  $\rightarrow 4 \times 3 = 12$   
 $24 - 12 = 12$   
(e) Spaghetti  $\rightarrow 5 \times 3 = 15$   
 $12 + 15 = 27$
5. (a) **jug**  
(b) **cup**  
(c)  $10 - 2 = 8$   
(d)  $8 - 2 = 6$   
(e)  $8 + 10 + 2 = 20$
6. Shrimp  $\rightarrow 6 \div 2 = 3\odot$   
Crab  $\rightarrow 14 \div 2 = 7\odot$   
Fish  $\rightarrow 20 \div 2 = 10\odot$   
Squid  $\rightarrow 8 \div 2 = 4\odot$

|        |      |      |       |
|--------|------|------|-------|
|        |      |      |       |
| Shrimp | Crab | Fish | Squid |

Each stands for 2 pieces of seafood.

7.

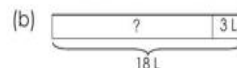


$2 \times 8 \text{ oz.} = 16 \text{ oz.}$   
Riley bought **16 oz.** of fruit juice.

8.



$10 \text{ L} + 8 \text{ L} = 18 \text{ L}$   
Li makes **18 L** of lemonade.

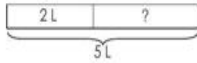
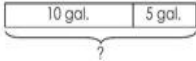
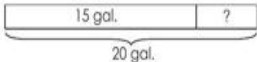
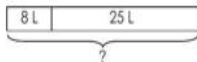
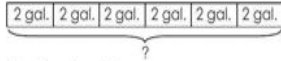
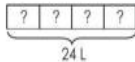
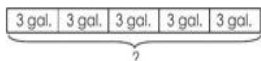
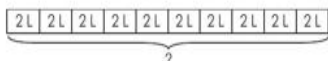
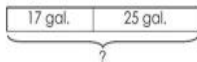
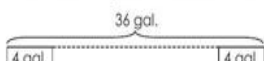
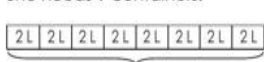
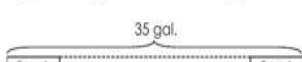


$18 \text{ L} - 3 \text{ L} = 15 \text{ L}$   
She will have **15 L** of lemonade left.

9.



$10 \text{ gal.} + 15 \text{ gal.} = 25 \text{ gal.}$   
She collected **25 gal.** of rainwater altogether.

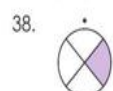
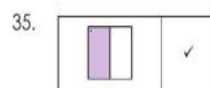
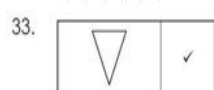
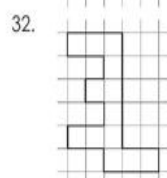
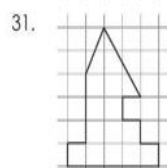
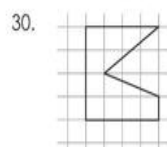
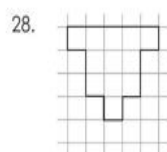
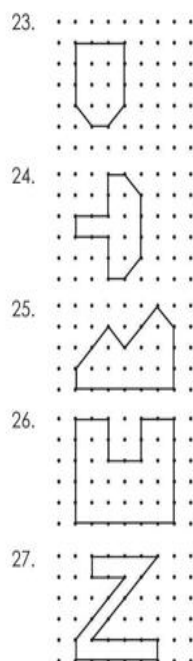
10.   
 $5 \text{ L} - 2 \text{ L} = 3 \text{ L}$   
**3 L** of milk was left.
11. (a)   
 $10 \text{ gal.} + 5 \text{ gal.} = 15 \text{ gal.}$   
 Andy bought **15 gal.** of drinks.
- (b)   
 $20 \text{ gal.} - 15 \text{ gal.} = 5 \text{ gal.}$   
 He needed to buy **5** more gallons of drinks.
12.   
 $25 \text{ L} + 8 \text{ L} = 33 \text{ L}$   
 Eva bought **33 L** of liquid detergent altogether.
13.   
 $6 \times 2 \text{ gal.} = 12 \text{ gal.}$   
 He removed **12 gal.** of water from the tank.
14.   
 $24 \text{ L} \div 4 = 6 \text{ L}$   
 There was **6 L** of orange juice in each container.
15.   
 $5 \times 3 \text{ gal.} = 15 \text{ gal.}$   
 She collects **15 gal.** of used water every week.
16.   
 $10 \times 2 \text{ L} = 20 \text{ L}$   
 She drinks **20 L** of water in 10 days.
17.   
 $17 \text{ gal.} + 25 \text{ gal.} = 42 \text{ gal.}$   
 He brews **42 gal.** of coffee and tea every day.
18.   
 $36 \text{ gal.} \div 4 \text{ gal.} = 9$   
 She needs **9** containers.
19.   
 $8 \times 2 \text{ L} = 16 \text{ L}$   
 Alyssa bought **16 L** of detergent.
20.   
 $35 \text{ gal.} \div 5 \text{ gal.} = 7$   
 He washed **7** cars if he used 35 gal. of water.

#### Unit 16: Lines and Surfaces

1. (a) **4, 7**  
 (b) **3, 8**  
 (c) **2, 5**
2. **8, 4**
3. **5, 2**
4. **6, 1**
5. **6, 2**
6. **4, 1**
7. **1**
8. **6**
9. **6**
10. **1**
11. **2**
12. **6**
13. **5**
14. **0**
15. **5**

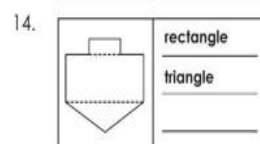
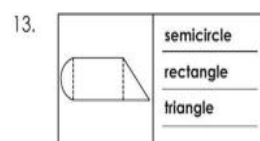
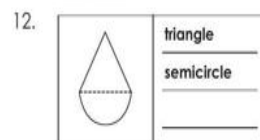
#### Unit 17: Shapes and Patterns

1. **rectangle**
2. **triangle**
3. **square**
4. **quarter circle**
5. **circle**
6. **triangle**
7. **semicircle**
8. **triangle, semicircle**
9. **triangle, rectangle**
10. **circle, square**
11. **triangle, quarter circle**
12. **rectangle, circle**
13. (a) **3**  
 (b) **4**  
 (c) **3**  
 (d) **6**  
 (e) **8**  
 (f) **2**
14. 
15. 
16. 
17. **triangle**
18. **circle**
19. **semicircle**
20. **rectangle**
21. **quarter circle**
22. **square**



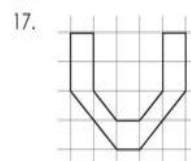
### Review 8

1. circle
2. quarter circle
3. semicircle
4. rectangle
5. triangle
6. square
7. 4
8. 3, 1, 2, 2
9.  $\triangle$  (the smaller triangle)

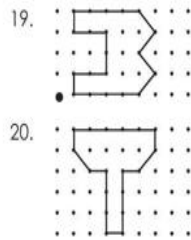


15. 5, 5

16. 1



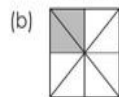
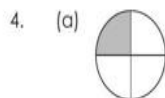
18. Color the **book**, **rectangle**, and **stamp**.



### Final Review

- $\frac{5}{8}$
- $5 \times 10 = 50$
  - $7 \times 10 = 70$
  - Monday  $\rightarrow 4 \times 10 = 40$   
Friday  $\rightarrow 6 \times 10 = 60$   
 $60 - 40 = 20$
  - Tuesday  $\rightarrow 3 \times 10 = 30$   
Saturday  $\rightarrow 8 \times 10 = 80$   
 $80 - 30 = 50$
  - Wednesday  $\rightarrow 2 \times 10 = 20$   
 $40 + 20 = 60$

3. **12:20 P.M.**



5.  $1 \text{ L} + 1 \text{ L} = 2 \text{ L}$   
1 jug can hold 2 L of water.  
 $3 \times 2 \text{ L} = 6 \text{ L}$



7.  $790 + 100 = 890$   
 $890 - 30 = 860$

8.  $\frac{5}{5} - \frac{2}{5} = \frac{3}{5}$

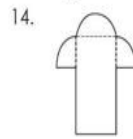


10. **semicircle, rectangle**

11. **C**  
 $\frac{2}{4}$  of Figure C is shaded, while  $\frac{1}{4}$  of the rest of the figures are shaded.

12.  $10 \times 10 = 100$   
 $\Delta = 10$   
 $5 \times 5 = 25$   
 $\bigcirc = 5$   
 $10 \times 5 = 50$

13.  $\frac{7}{10}$



15.  $\frac{1}{9}$

$\frac{1}{9}$  is the largest, and  $\frac{1}{12}$  is the smallest.

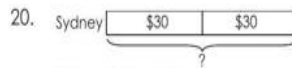
16. **forty-eight, thirty**

17.  $345 - 100 = 245$

$245 + 10 = 255$

18. **\$90.80**

19.  $\frac{5}{11} - \frac{2}{11} = \frac{3}{11}$



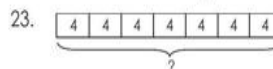
$\$30 + \$30 = \$60$   
Sydney spent **\$60**.



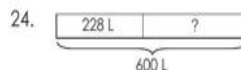
$7 \times 5 = 35$   
He gave **35** cans of juice to his friends.



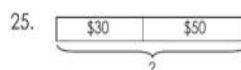
$129 + 257 = 386$   
 $386 + 229 = 615$   
**615** students took part in the art competition.



$7 \times 4 = 28$   
He will read **28** books in a week.



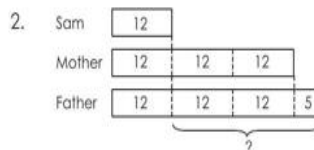
$600 \text{ L} - 228 \text{ L} = 372 \text{ L}$   
Jack makes **372 L** of fruit punch.



$\$50 + \$30 = \$80$   
Malak received **\$80** in all.

### Challenge Questions

1. 1 day  $\rightarrow$  4 pieces of clothing  
10 days  $\rightarrow 10 \times 4 = 40$  pieces of clothing  
Mrs. Robinson sewed **40** pieces of clothing in 10 days.



$$2 \times 12 = 24$$

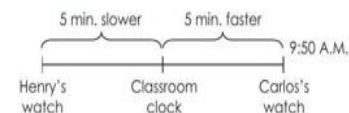
$$24 + 5 = 29$$

Sam's father is **29** years older than Sam.

3.

|    |    |    |    |
|----|----|----|----|
| 18 | 10 | 13 | 41 |
| 11 | 15 | 16 | 42 |
| 14 | 17 | 12 | 43 |
| 43 | 42 | 41 |    |

4.



$$5 + 5 = 10$$

10 min. before 9:50 A.M. is 9:40 A.M.

The time shown on Henry's watch was **9:40 A.M.**

5.

$$2 \heartsuit \rightarrow 80$$

$$1 \heartsuit \rightarrow 80 \div 2 = 40$$

$$40 + \Delta = 120$$

$$\Delta = 120 - 40 = 80$$

$$\heartsuit + \Delta + \Delta + \Delta \rightarrow 40 + 80 + 80 + 80 = \mathbf{280}$$

6.

Use the guess-and-check method.

|         | 1st number | 2nd number | 1st number $\times$ 2nd number |
|---------|------------|------------|--------------------------------|
| Guess 1 | 1          | 50         | 50                             |
| Guess 2 | 2          | 25         |                                |
| Guess 3 | 5          | 10         |                                |

The result of the division of the 2 numbers in Guess 1 and Guess 2 do not equal 2.

$$10 \div 5 = 2$$

The 2 numbers are **5** and **10**.

7.

|   |   |   |
|---|---|---|
| B | N | L |
|---|---|---|

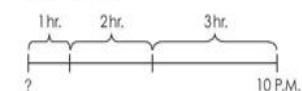
B: Best friend  
N: Neighbor  
L: Left

Since  $\frac{1}{4}$  of the bottle of orange juice was left, the amount of juice Christopher gave to his neighbor was also  $\frac{1}{4}$ .

$$1 - \frac{1}{4} - \frac{1}{4} = \frac{4}{4} - \frac{1}{4} - \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$$

Christopher gave his best friend  $\frac{2}{4}$  or  $\frac{1}{2}$  of the bottle of orange juice.

8.



$$1 + 2 + 3 = 6 \text{ hr.}$$

6 hr. before 10 P.M. is 4 P.M.

He started watching cartoons at **4 P.M.**

9.

**26**

The types of triangles in the figure are  $\triangle$ ,  $\nabla$ ,  $\triangleleft$ ,  $\triangleright$ .

$\triangleleft$ ,  $\triangleright$  and  $\triangle$ .

10. Use the guess-and-check method.

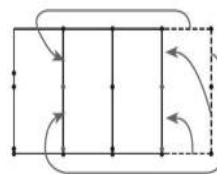
$$8 \times 4 = 32$$

$$8 \div 4 = 2$$

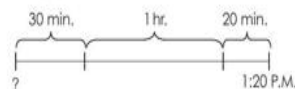
$$8 + 4 = 12$$

$$(\heartsuit - \diamondsuit) = 8 - 4 = 4$$

11.



12. Rico stepped out of the bathroom at 1:20 P.M.



$$30 \text{ min.} + 1 \text{ hr.} + 20 \text{ min.} = 1 \text{ hr. } 50 \text{ min.}$$

1 hr. 50 min. before 1:20 P.M. is 11:30 A.M.



# Notes

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