



# Unit 4

## Cool-downs

### Dividing Fractions

Click on a title in the list below to scroll directly to that lesson.

- ▶ [Lesson 1: Size of Divisor and Size of Quotient](#)
- ▶ [Lesson 2: Meanings of Division](#)
- ▶ [Lesson 3: Interpreting Division Situations](#)
- ▶ [Lesson 4: How Many Groups? \(Part 1\)](#)
- ▶ [Lesson 5: How Many Groups? \(Part 2\)](#)
- ▶ [Lesson 6: Using Diagrams to Find the Number of Groups](#)
- ▶ [Lesson 7: What Fraction of a Group?](#)
- ▶ [Lesson 8: How Much in Each Group? \(Part 1\)](#)
- ▶ [Lesson 9: How Much in Each Group? \(Part 2\)](#)
- ▶ [Lesson 10: Dividing by Unit and Non-Unit Fractions](#)
- ▶ [Lesson 11: Using an Algorithm to Divide Fractions](#)
- ▶ [Lesson 12: Fractional Lengths](#)
- ▶ [Lesson 13: Rectangles with Fractional Side Lengths](#)
- ▶ [Lesson 14: Fractional Lengths in Triangles and Prisms](#)
- ▶ [Lesson 15: Volume of Prisms](#)
- ▶ [Lesson 16: Solving Problems Involving Fractions](#)



NAME

DATE

PERIOD

## Unit 4, Lesson 1

# Cool-down

## 1.4 Result of Division

Without computing, decide whether the value of each expression is much smaller than 1, close to 1, or much larger than 1.

1.  $1,000,001 \div 99$

4.  $100 \div \frac{1}{100}$

2.  $3.7 \div 4.2$

5.  $0.006 \div 6,000$

3.  $1 \div 835$

6.  $50 \div 50\frac{1}{4}$



NAME

DATE

PERIOD

## Unit 4, Lesson 2

**Cool-down****2.3 Groups on A Field Trip**

1. During a field trip, 60 students are put into equal-sized groups.
  - a. Describe two ways to interpret  $60 \div 5$  in this context.
  
  
  
  
  
  
  
  
  
  
  - b. Find the quotient.
  
  
  
  
  
  
  
  
  
  
  - c. Explain what the quotient would mean in each of the two interpretations you described.
  
2. Consider the division expression  $7\frac{1}{2} \div 2$ . Select **all** multiplication equations that correspond to this division expression.
  - a.  $2 \cdot ? = 7\frac{1}{2}$
  
  
  
  
  
  
  
  
  
  
  - b.  $7\frac{1}{2} \cdot ? = 2$



---

NAME

DATE

PERIOD

c.  $2 \cdot 7\frac{1}{2} = ?$

d.  $? \cdot 7\frac{1}{2} = 2$

e.  $? \cdot 2 = 7\frac{1}{2}$



NAME

DATE

PERIOD

**Unit 4, Lesson 3****Cool-down****3.4 Rice and Beans**

1. Here are three problems. Select **all** problems that can be solved using division.
  - a. Jada cut 4 pieces of ribbon that were equal in length. She used a total of 5 feet of ribbon. How long, in feet, was each piece of ribbon she cut?
  - b. A chef bought 3 bags of beans. Each bag contains  $1\frac{2}{5}$  kilograms of beans. How many kilograms of beans did she buy?
  - c. A printer takes  $2\frac{1}{2}$  seconds to print a flyer. It took 75 seconds to print a batch of flyers without stopping. How many flyers were in the batch?
  
2. Andre poured 27 ounces of rice into 6 containers. If all containers have the same amount of rice, how many ounces are in each container?
  - a. Write an equation to represent the situation. Use a "?" to represent the unknown quantity.
  
  - b. Find the unknown quantity. Show your reasoning.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

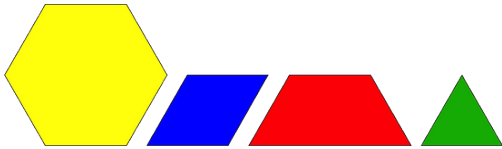
PERIOD \_\_\_\_\_

## Unit 4, Lesson 4

# Cool-down

### 4.3 Halves, Thirds, and Sixths

1. The hexagon represents 1 whole.



Draw a pattern-block diagram that represents the equation

$$4 \cdot \frac{1}{3} = 1\frac{1}{3}.$$

2. Answer the following questions. If you get stuck, use pattern blocks.

a. How many  $\frac{1}{2}$ s are in  $3\frac{1}{2}$ ?

b. How many  $\frac{1}{3}$ s are in  $2\frac{2}{3}$ ?

c. How many  $\frac{1}{6}$ s are in  $\frac{2}{3}$ ?



NAME \_\_\_\_\_

DATE \_\_\_\_\_

PERIOD \_\_\_\_\_

**Unit 4, Lesson 5****Cool-down****5.4 Bags of Tangerines**

A grocery store sells tangerines in  $\frac{2}{5}$  kg bags. A customer bought 4 kg of tangerines for a school party. How many bags did he buy?

1. Select **all** equations that represent the situation.

a.  $4 \cdot \frac{2}{5} = ?$    b.  $? \cdot \frac{2}{5} = 4$    c.  $\frac{2}{5} \div 4 = ?$    d.  $4 \div \frac{2}{5} = ?$    e.  $? \div \frac{2}{5} = 4$

2. Draw a diagram to represent the situation. Answer the question.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

PERIOD \_\_\_\_\_

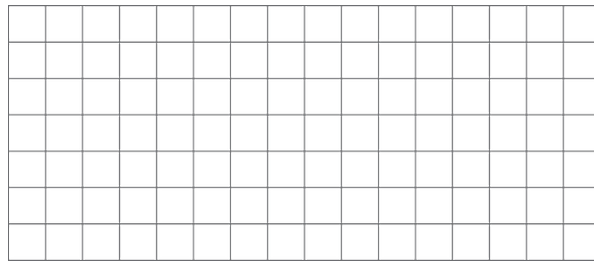
## Unit 4, Lesson 6

# Cool-down

## 6.4 How Many in 2?

How many  $\frac{3}{4}$ s are in 2?

1. Write a multiplication equation and a division equation that can be used to answer the question.
2. Draw a tape diagram and answer the question. Use the grid to help you draw, if needed.









NAME

DATE

PERIOD

**Unit 4, Lesson 8****Cool-down****8.4 Funding a Camping Trip**

Students in a sixth-grade class are raising money for an end-of-year camping trip. So far, they have raised \$240. This is  $\frac{2}{5}$  of the cost of the trip. How much does the trip cost?

Write multiplication and division equations and draw a diagram to represent the situation. Then answer the question and show your reasoning.

NAME \_\_\_\_\_

DATE \_\_\_\_\_

PERIOD \_\_\_\_\_

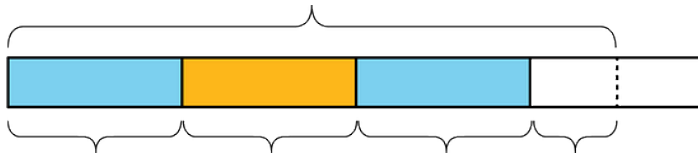
## Unit 4, Lesson 9

# Cool-down

### 9.5 Refilling a Soap Dispenser

Noah fills a soap dispenser from a big bottle that contains  $2\frac{1}{3}$  liters of liquid soap. That amount of soap will fill  $3\frac{1}{2}$  dispensers. How many liters of soap fit into one dispenser?

Use the diagram below to answer the question. Label all relevant parts of the diagram.



NAME \_\_\_\_\_

DATE \_\_\_\_\_

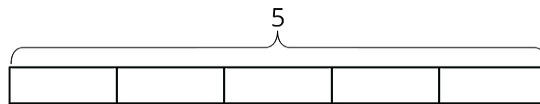
PERIOD \_\_\_\_\_

Unit 4, Lesson 10

**Cool-down**

**10.4 Dividing by  $\frac{1}{3}$  and  $\frac{3}{5}$**

1. Explain or show how you could find  $5 \div \frac{1}{3}$  by using the value of  $5 \cdot 3$ . If needed, use this diagram to support your reasoning.



2. Find  $12 \div \frac{3}{5}$ . Only use a diagram if necessary. Show your reasoning.





NAME

DATE

PERIOD

**Unit 4, Lesson 12****Cool-down****12.5 Building A Fence**

A builder was building a fence. In the morning, he worked for  $\frac{2}{5}$  of an hour. In the afternoon, he worked for  $\frac{9}{10}$  of an hour. How many times as long as in the morning did he work in the afternoon?

Write a division equation to represent this situation, then answer the question. Show your reasoning. If you get stuck, you can draw a diagram.



NAME

DATE

PERIOD

**Unit 4, Lesson 13****Cool-down****13.5 Two Frames**

Two rectangular picture frames have the same area of 45 square inches but have different side lengths. Frame A has a length of  $6\frac{3}{4}$  inches, and Frame B has a length of  $7\frac{1}{2}$  inches.

1. Without calculating, predict which frame has the shorter width. Explain your reasoning.
2. Find the width that you predicted to be shorter. Show your reasoning.



NAME

DATE

PERIOD

## Unit 4, Lesson 14

**Cool-down****14.4 Triangles and Cubes**

1. A triangle has a base of  $3\frac{2}{5}$  inches and an area of  $5\frac{1}{10}$  square inches. Find the height of the triangle. Show your reasoning.
2. Answer each of the following questions and show your reasoning.
  - a. How many cubes with an edge length of  $\frac{1}{3}$  inch are needed to build a cube with an edge length of 1 inch?
  - b. What is the volume, in cubic inches, of one cube with an edge length of  $\frac{1}{3}$  inch?





NAME

DATE

PERIOD

**Unit 4, Lesson 15****Cool-down****15.4 Storage Box**

A storage box has a volume of 56 cubic inches, and the base of the box is 4 inches by 4 inches.

1. What is the height of the box?
2. Lin's teacher uses the box to store her set of cubes with an edge length of  $\frac{1}{2}$  inch. If the box is completely full, how many cubes are in the set?



NAME

DATE

PERIOD

## Unit 4, Lesson 16

# Cool-down

### 16.5 A Box of Pencils

A box of pencils is  $5\frac{1}{4}$  inches wide. Seven pencils, laid side by side, take up  $2\frac{5}{8}$  inches of the width.

1. How many inches of the width of the box is *not* taken up by pencils? Show your reasoning.
2. All the pencils have the same width. How wide is each pencil? Show your reasoning.