

## Lesson 5 Practice Problems

### Problem 1

Mai and Priya were on scooters. Mai traveled 15 meters in 6 seconds. Priya travels 22 meters in 10 seconds. Who was moving faster? Explain your reasoning.

### Possible Solutions

Mai's scooter is faster.  $22 \div 10 = 2.2$ , so Priya's scooter travels at a rate of 2.2 meters per second.  $15 \div 6 = 2.5$ , so Mai's scooter travels at a rate of 2.5 meters per second.

### Problem 2

Here are the prices for cans of juice that are the same brand and the same size at different stores. Which store offers the best deal? Explain your reasoning.

Store X: 4 cans for \$2.48

Store Y: 5 cans for \$3.00

Store Z: 59 cents per can

### Possible Solutions

Store Z has the best deal.  $2.48 \div 4 = 0.62$  or 62 cents per can.  $3 \div 5 = 0.6$  or 60 cents per can. 59 cents is the least expensive of the 3 options.

### Problem 3

Costs of homes can be very different in different parts of the United States.

- A 450-square-foot apartment in New York City costs \$540,000. What is the price per square foot? Explain or show your reasoning.
- A 2,100-square-foot home in Cheyenne, Wyoming, costs \$110 per square foot. How much does this home cost? Explain or show your reasoning.

### Possible Solutions

- $\$1,200$  ( $540,000 \div 450 = 1,200$ )
- $\$231,000$  ( $2,100 \cdot 110 = 231,000$ )

### Problem 4

From Grade 6, Unit 3, Lesson 4

## Lesson 5 Practice Problems

There are 33.8 fluid ounces in a liter. There are 128 fluid ounces in a gallon. About how many liters are in a gallon?

- a. 2
- b. 3
- c. 4
- d. 5

Is your estimate larger or smaller than the actual number of liters in a gallon? Explain how you know.

### Possible Solutions

C. Answers vary. Sample response: This estimate is too big:  $4 \cdot 32 = 128$ , so  $4 \cdot (33.8)$  is larger than 128.

### Problem 5

From Grade 6, Unit 3, Lesson 3

Diego is 165 cm tall. Andre is 1.7 m tall. Who is taller, Diego or Andre? Explain your reasoning.

### Possible Solutions

Andre is taller. 1.7 m is 170 cm, and  $170 > 165$ .

### Problem 6

From Grade 6, Unit 3, Lesson 2

Name an object that could be about the same length as each measurement.

- a. 4 inches
- b. 6 feet
- c. 1 meter
- d. 5 yards
- e. 6 centimeters
- f. 2 millimeters
- g. 3 kilometers

### Possible Solutions

Answers vary. Sample response:

- a. Pencil
- b. Ladder
- c. Person's leg

- d. Tablecloth
- e. Insect
- f. Grain of rice
- g. Foot race

## Lesson 6 Practice Problems

### Problem 1

A pink paint mixture uses 4 cups of white paint for every 3 cups of red paint.

The table shows different quantities of red and white paint for the same shade of pink. Complete the table.

white paint (cups)	red paint (cups)
4	3
	1
1	
	4
5	

### Possible Solutions

Equivalent values are also acceptable.

white paint (cups)	red paint (cups)
4	3
$\frac{4}{3}$	1
1	$\frac{3}{4}$
$\frac{16}{3}$	4
5	$\frac{15}{4}$

**Problem 2**

A farm lets you pick 3 pints of raspberries for \$12.00.

- What is the cost per pint?
- How many pints do you get per dollar?
- At this rate, how many pints can you afford for \$20.00?
- At this rate, how much will 8 pints of raspberries cost?

**Possible Solutions**

- Each pint costs  $\frac{12}{3}$  or \$4.
- You get  $\frac{3}{12}$  or  $\frac{1}{4}$  or 0.25 pints per dollar.
- You can afford 5 pints, because  $20 \div 4 = 5$  and  $(0.25) \cdot 20 = 5$ .
- 8 pints will cost \$32.00, because  $8 \cdot 4 = 32$ . Possible strategy:

pints of raspberries	cost in dollars
3	12
1	4
$\frac{1}{4}$	1
5	20
8	32

**Problem 3**

Han and Tyler are following a polenta recipe that uses 5 cups of water for every 2 cups of cornmeal.

- Han says, "I am using 3 cups of water. I will need  $1\frac{1}{5}$  cups of cornmeal."
- Tyler says, "I am using 3 cups of cornmeal. I will need  $7\frac{1}{2}$  cups of water."

Do you agree with either of them? Explain your reasoning.

## Lesson 6 Practice Problems

### Possible Solutions

They are both correct. For every cup of water,  $\frac{2}{5}$  cup of cornmeal is used. For every cup of cornmeal,  $2\frac{1}{2}$  cups of water are used.

water (cups)	cornmeal (cups)
5	2
1	$\frac{2}{5}$
$2\frac{1}{2}$	1
3	$1\frac{1}{5}$
$7\frac{1}{2}$	3

### Problem 4

A large art project requires enough paint to cover 1,750 square feet. Each gallon of paint can cover 350 square feet. Each square foot requires  $\frac{1}{350}$  of a gallon of paint.

Andre thinks he should use the rate  $\frac{1}{350}$  gallons of paint per square foot to find how much paint they need. Do you agree with Andre? Explain or show your reasoning.

### Possible Solutions

Answers vary. Sample responses:

- I agree with Andre. He needs enough paint for 1,750 square feet. Since each square foot requires  $\frac{1}{350}$  gallons of paint, Andre needs 5 gallons of paint because  $(1,750) \cdot \frac{1}{350} = 5$ .
- I disagree with Andre. It is easier to use the rate 350 square feet per gallon. This table shows that he needs 5 gallons of paint:

gallons of paint	area in square feet
1	350



gallons of paint	area in square feet
5	1,750

### Problem 5

From Grade 6, Unit 3, Lesson 5

Andre types 208 words in 4 minutes. Noah types 342 words in 6 minutes. Who types faster? Explain your reasoning.

### Possible Solutions

Noah types faster. He can type 5 more words per minute than Andre. Andre types at a rate of 52 words per minute, because  $208 \div 4 = 52$ . Noah types at a rate of 57 words per minute, because  $342 \div 6 = 57$ .

### Problem 6

From Grade 6, Unit 3, Lesson 5

A corn vendor at a farmer's market was selling a bag of 8 ears of corn for \$2.56. Another vendor was selling a bag of 12 for \$4.32. Which bag is the better deal? Explain or show your reasoning.

### Possible Solutions

The bag of 8 is better.  $2.56 \div 8 = 0.32$ , so each ear of corn is 32 cents. In the bag of 12, each ear of corn is 36 cents because  $4.32 \div 12 = 0.36$ .

### Problem 7

From Grade 6, Unit 3, Lesson 3

A soccer field is 100 meters long. What could be its length in yards?

- A. 33.3
- B. 91
- C. 100
- D. 109

### Possible Solutions

D

## Lesson 6 Practice Problems

One yard is slightly shorter than a meter, so it takes slightly more yards than meters to measure the length of the same object.



## Lesson 10 Practice Problems

### Problem 1

What percentage of a dollar is the value of each coin combination?

- a. 4 dimes
- b. 1 nickel and 3 pennies
- c. 5 quarters and 1 dime

### Possible Solutions

- a. 40%
- b. 8%
- c. 135%

### Problem 2

- a. List three different combinations of coins, each with a value of 30% of a dollar.
- b. List two different combinations of coins, each with a value of 140% of a dollar.

### Possible Solutions

Answers vary. Sample response:

- a. 30 pennies, 6 nickels, or 3 dimes
- b. 140 pennies, 14 dimes, or 5 quarters and 3 nickels

### Problem 3

The United States government used to make coins of many different values. For each coin, state its worth as a percentage of \$1.



## Lesson 10 Practice Problems

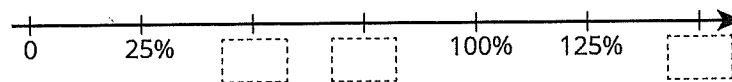
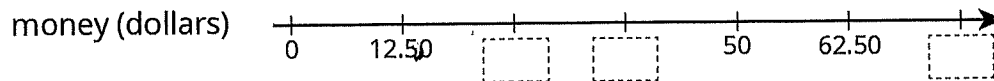
- a.  $\frac{1}{2}$  cent                      c. 20 cents                      e. \$5  
b. 3 cents                          d.  $\$2\frac{1}{2}$

### Possible Solutions

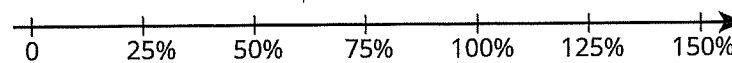
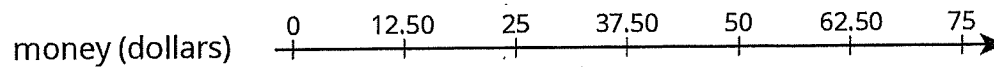
- a.  $\frac{1}{2}\%$   
b. 3%  
c. 20%  
d. 250%  
e. 500%

### Problem 4

Complete the double number to line show percentages of \$50.



### Possible Solutions



### Problem 5

From Grade 6, Unit 3, Lesson 9

Elena bought 8 tokens for \$4.40. At this rate:

- a. How many tokens could she buy with \$6.05?  
b. How much do 19 tokens cost?

### Possible Solutions

- a. 11 tokens

b. \$10.45

### Problem 6

From Grade 6, Unit 3, Lesson 8

A snail travels 10 cm in 4 minutes. At this rate:

- How long will it take the snail to travel 24 cm?
- How far does the snail travel in 6 minutes?

### Possible Solutions

- 9.6 minutes (or equivalent)
- 15 cm

### Problem 7

From Grade 6, Unit 3, Lesson 7

- 3 tacos cost \$18. Complete the table to show the cost of 4, 5, and 6 tacos at the same rate.

number of tacos	cost in dollars	rate in dollars per taco
3	18	
4		
5		
6		

- If you buy  $t$  tacos for  $c$  dollars, what is the unit rate?

### Possible Solutions

a.

number of tacos	cost in dollars	rate in dollars per taco
3	18	6
4	24	6

## Lesson 10 Practice Problems

number of tacos	cost in dollars	rate in dollars per taco
5	30	6
6	36	6

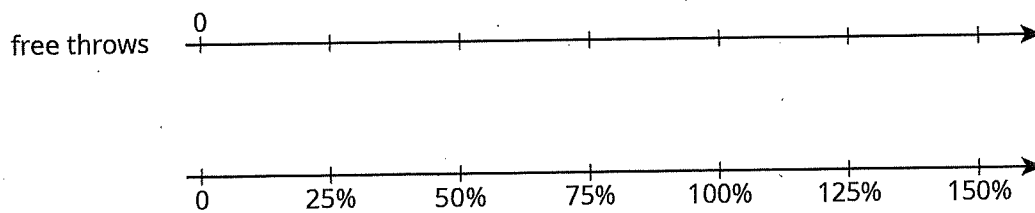
b.  $\frac{c}{t}$  dollars per taco or  $\frac{t}{c}$  tacos per dollar.

## Lesson 11 Practice Problems

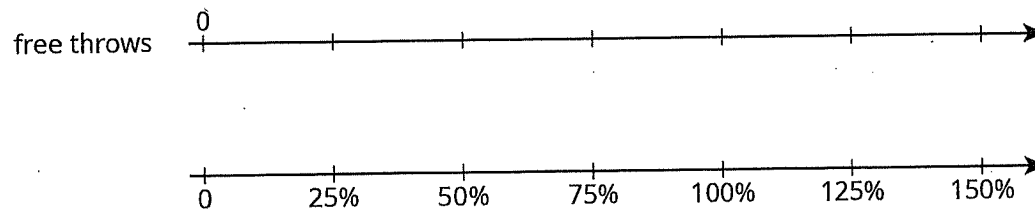
### Problem 1

Solve each problem. If you get stuck, consider using the double number lines.

- a. During a basketball practice, Mai attempted 40 free throws and was successful on 25% of them. How many successful free throws did she make?



- b. Yesterday, Priya successfully made 12 free throws. Today, she made 150% as many. How many successful free throws did Priya make today?

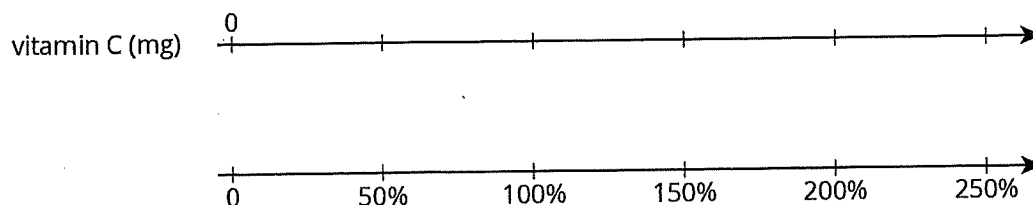


### Possible Solutions

- a. 10 free throws  
b. 18 free throws

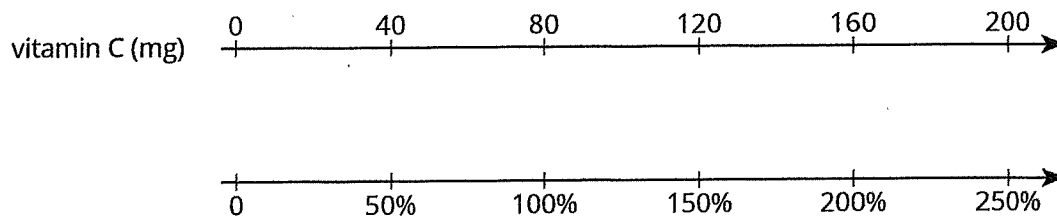
### Problem 2

A 16-ounce bottle of orange juice says it contains 200 milligrams of vitamin C, which is 250% of the daily recommended allowance of vitamin C for adults. What is 100% of the daily recommended allowance of vitamin C for adults?



### Possible Solutions

80 mg. Explanations vary. Sample explanation: 80 mg is 100% of the daily recommended allowance. The double number line can be used to show this: 80 is above 100%. So half of 80 is above half of 100%, that is, 40 is above 50%. Also, 2 times 80 is above 2 times 100%, that is, 160 is above 200%. So, the number above 250% is the number above 50% plus the number above 200%, which is 40 plus 160.

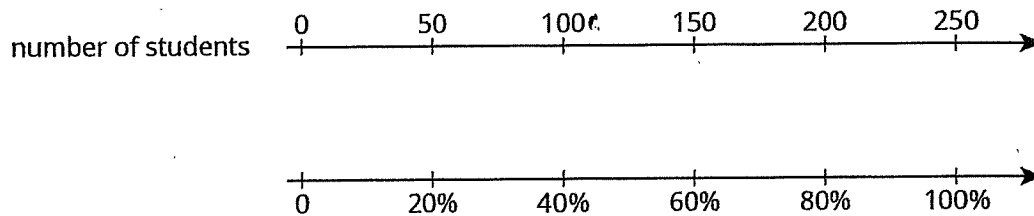


### Problem 3

At a school, 40% of the sixth-grade students said that hip-hop is their favorite kind of music. If 100 sixth-grade students prefer hip hop music, how many sixth-grade students are at the school? Explain or show your reasoning.

### Possible Solutions

250. Explanations vary. Possible explanation:



### Problem 4

From Grade 6, Unit 3, Lesson 9

## Lesson 11 Practice Problems

Diego has a skateboard, scooter, bike, and go-cart. He wants to know which vehicle is the fastest. A friend records how far Diego travels on each vehicle in 5 seconds. For each vehicle, Diego travels as fast as he can along a straight, level path.

vehicle	distance traveled
skateboard	90 feet
scooter	1,020 inches
bike	4,800 centimeters
go-cart	0.03 kilometers

- 100 inches equal 254 centimeters. What is the distance each vehicle traveled in centimeters?
- Rank the vehicles in order from fastest to slowest.

### Possible Solutions

- Skateboard: 2,743.2. Scooter: 2,590.8. Bike: 4,800. Go-cart: 3,000.
- Bike, go-cart, skateboard, scooter

### Problem 5

From Grade 6, Unit 3, Lesson 7

It takes 10 pounds of potatoes to make 15 pounds of mashed potatoes. At this rate:

- How many pounds of mashed potatoes can they make with 15 pounds of potatoes?
- How many pounds of potatoes are needed to make 50 pounds of mashed potatoes?

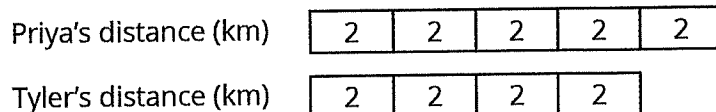
### Possible Solutions

- To find the amount of mashed potatoes, multiply the amount of potatoes by  $\frac{3}{2}$ ,  $22\frac{1}{2}$  pounds of mashed potatoes (or equivalent).
- To find the potatoes, multiply the amount of mashed potatoes by  $\frac{2}{3}$ ,  $33\frac{1}{3}$  pounds of potatoes (or equivalent).

## Lesson 12 Practice Problems

### Problem 1

Here is a tape diagram that shows how far two students walked.



- a. What percentage of Priya's distance did Tyler walk?
- b. What percentage of Tyler's distance did Priya walk?

### Possible Solutions

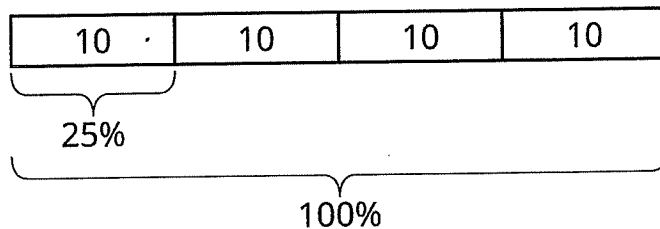
- a. 80%
- b. 125%

### Problem 2

A bakery makes 40 different flavors of muffins. 25% of the flavors have chocolate as one of the ingredients. Draw a tape diagram to show how many flavors have chocolate and how many don't.

### Possible Solutions

Each unit in the tape diagram represents 25%, so 10 have chocolate and 30 do not.



### Problem 3

There are 70 students in the school band. 40% of them are sixth graders, 20% are seventh graders, and the rest are eighth graders.

- a. How many band members are sixth graders?



## Lesson 12 Practice Problems

- b. How many band members are seventh graders?
- c. What percentage of the band members are eighth graders? Explain your reasoning.

### Possible Solutions

- a.  $28$  ( $70 \cdot 0.4 = 28$ )
- b.  $14$  ( $70 \cdot 0.2 = 14$ )
- c. 40% because the other percentages add up to 60% and that leaves 40%, because  $100 - 60 = 40$ .

### Problem 4

From Grade 6, Unit 3, Lesson 11

Jada has a monthly budget for her cell phone bill. Last month she spent 120% of her budget, and the bill was \$60. What is Jada's monthly budget? Explain or show your reasoning.

### Possible Solutions

\$50. Strategies vary. Sample reasoning: If 120% is 60, then 20% is 10, which I get by multiplying each by  $\frac{1}{6}$ . If 20% is 10, then 100% is 50, which I get by multiplying each by 5.

### Problem 5

From Grade 6, Unit 3, Lesson 9

Which is a better deal, 5 tickets for \$12.50 or 8 tickets for \$20.16? Explain your reasoning.

### Possible Solutions

5 tickets for \$12.50 is a better deal. 5 tickets for \$12.50 equals a unit rate of \$2.50 per ticket, ( $12.50 \div 5 = 2.50$ ), and 8 tickets for \$20.16 equals a unit rate of \$2.52 per ticket, ( $20.16 \div 8 = 2.52$ ).

### Problem 6

From Grade 6, Unit 3, Lesson 8

An athlete runs 8 miles in 50 minutes on a treadmill. At this rate:

- a. How long will it take the athlete to run 9 miles?
- b. How far can the athlete run in 1 hour?



### Possible Solutions

- a. 56.25 minutes (or equivalent)
- b. 9.6 miles (or equivalent)

## Lesson 13 Practice Problems

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# Lesson 13 Practice Problems

### Problem 1

- How can you find 50% of a number quickly in your head?
- Andre lives 1.6 km from school. What is 50% of 1.6 km?
- Diego lives  $\frac{1}{2}$  mile from school. What is 50% of  $\frac{1}{2}$  mile?

### Possible Solutions

- Answers vary. Sample response: Divide the number by 2 (or multiply it by  $\frac{1}{2}$ ).
- 0.8 km (or equivalent)
- $\frac{1}{4}$  mile (or equivalent)

### Problem 2

There is a 10% off sale on laptop computers. If someone saves \$35 on a laptop, what was its original cost? If you get stuck, consider using the table.

savings (dollars)	percentage
35	10
?	100

### Possible Solutions

\$350

### Problem 3

Explain how to calculate these mentally.

- 15 is what percentage of 30?
- 3 is what percentage of 12?
- 6 is what percentage of 10?

## Possible Solutions

Answers vary. Sample response:

- 50%. 15 is  $\frac{1}{2}$  of 30, so that is 50%.
- 25%. 3 is  $\frac{1}{4}$  of 12, so that is 25%.
- 60%.  $\frac{6}{10}$  is the same as  $\frac{3}{5}$ , and each  $\frac{1}{5}$  is 20%.

## Problem 4

Noah says that to find 20% of a number he divides the number by 5. For example, 20% of 60 is 12, because  $60 \div 5 = 12$ . Does Noah's method always work? Explain why or why not.

## Possible Solutions

Yes. Answers vary. Sample response: 20% of a number is  $\frac{20}{100}$  times the number and  $\frac{20}{100} = \frac{1}{5}$ . Multiplying by  $\frac{1}{5}$  gives the same result as dividing by 5.

## Problem 5

From Grade 6, Unit 3, Lesson 10

Diego has 75% of \$10. Noah has 25% of \$30. Diego thinks he has more money than Noah, but Noah thinks they have an equal amount of money. Who is right? Explain your reasoning.

## Possible Solutions

They each have \$7.50 ( $10 \cdot 0.75 = 7.50$  and  $30 \cdot 0.25 = 7.50$ ).

## Problem 6

From Grade 6, Unit 3, Lesson 8

Lin and Andre start walking toward each other at the same time from opposite ends of 22-mile walking trail. Lin walks at a speed of 2.5 miles per hour. Andre walks at a speed of 3 miles per hour.

Here is a table showing the distances traveled and how far apart Lin and Andre were over time. Use the table to find how much time passes before they meet.

## Lesson 13 Practice Problems

elapsed time (hour)	Lin's distance (miles)	Andre's distance (miles)	distance apart (miles)
0	0	0	22
1	2.5	3	16.5
			0

### Possible Solutions

4 hours. Possible strategy:

elapsed time (hour)	Lin's distance (miles)	Andre's distance (miles)	distance apart (miles)
0	0	0	22
1	2.5	3	16.5
2	5	6	11
3	7.5	9	5.5
4	10	12	0

## Lesson 14 Practice Problems

### Problem 1

For each problem, explain or show your reasoning.

- 160 is what percentage of 40?
- 40 is 160% of what number?
- What number is 40% of 160?

### Possible Solutions

Reasoning varies. Sample responses:

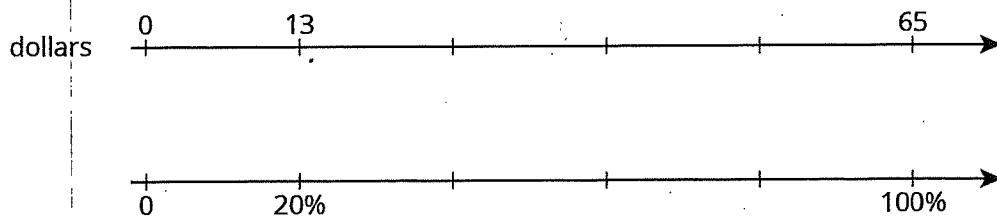
- 400%, because  $4 \cdot 40 = 160$ .
- 25; because  $40 \div 8 = 5$  is 20% of that number, and  $5 \cdot 5 = 25$  is 100% of that number.
- 64, because 10% of 160 is 16, and  $4 \cdot 16 = 64$ .

### Problem 2

A store is having a 20%-off sale on all merchandise. If Mai buys one item and saves \$13, what was the original price of her purchase? Explain or show your reasoning.

### Possible Solutions

\$65. Possible reasoning:



Place \$13 at 20%. To get from 20% to 100%, multiply by 5. Therefore, also multiply 13 by 5.

### Problem 3

The original price of a scarf was \$16. During a store-closing sale, a shopper saved \$12 on the scarf. What percentage discount did she receive? Explain or show your reasoning.

## Lesson 14 Practice Problems

### Possible Solutions

75%. Possible explanations:

- $12 \div 16 = \frac{75}{100}$  (or  $12 \div 16 = 0.75$ )

value (dollars)	percentage
16	100
12	75

### Problem 4

Select **all** the expressions whose value is larger than 100.

- A. 120% of 100
- B. 50% of 150
- C. 150% of 50
- D. 20% of 800
- E. 200% of 30
- F. 500% of 400
- G. 1% of 1,000

### Possible Solutions

A, D, F

### Problem 5

From Grade 6, Unit 3, Lesson 8

An ant travels at a constant rate of 30 cm every 2 minutes.

- a. At what pace does the ant travel per centimeter?
- b. At what speed does the ant travel per minute?

### Possible Solutions

- a. The pace is  $\frac{1}{15}$  of a minute per centimeter.

- b. The speed is 15 centimeters per minute.

### Problem 6

From Grade 6, Unit 3, Lesson 4

Is  $3\frac{1}{2}$  cups more or less than 1 liter? Explain or show your reasoning. (Note: 1 cup  $\approx$  236.6 milliliters)

### Possible Solutions

Less. Explanations vary. Possible explanation:

cups	milliliters
1	236.6
0.5	118.3
3	709.8
3.5	828.1

### Problem 7

From Grade 6, Unit 3, Lesson 2

Name a unit of measurement that is about the same size as each object.

- The distance of a doorknob from the floor is about 1 \_\_\_\_\_.
- The thickness of a fingernail is about 1 \_\_\_\_\_.
- The volume of a drop of honey is about 1 \_\_\_\_\_.
- The weight or mass of a pineapple is about 1 \_\_\_\_\_.
- The thickness of a picture book is about 1 \_\_\_\_\_.
- The weight or mass of a buffalo is about 1 \_\_\_\_\_.
- The volume of a flower vase is about 1 \_\_\_\_\_.
- The weight or mass of 20 staples is about 1 \_\_\_\_\_.
- The volume of a melon is about 1 \_\_\_\_\_.
- The length of a piece of printer paper is about 1 \_\_\_\_\_.



## Lesson 14 Practice Problems

### Possible Solutions

- a. Yard or meter
- b. Millimeter
- c. Milliliter
- d. Kilogram or pound
- e. Centimeter or inch
- f. Ton
- g. Cup, quart, or liter
- h. Gram
- i. Gallon
- j. Foot

## Lesson 15 Practice Problems

### Problem 1

- To find 40% of 75, Priya calculates  $\frac{2}{5} \cdot 75$ . Does her calculation give the correct value for 40% of 75? Explain or show how you know.
- If  $x$  represents a number, does  $\frac{2}{5} \cdot x$  always represent 40% of that number? Explain your reasoning.

### Possible Solutions

- Yes. 40% is 0.4, and  $(0.4) \cdot 75 = 30$ . Using Priya's method:  $\frac{2}{5} \cdot 75 = 30$ .
- Yes. 40% of  $x$  is  $\frac{40}{100} \cdot x$ . This is the same as  $\frac{2}{5} \cdot x$ , since  $\frac{40}{100}$  and  $\frac{2}{5}$  are equivalent fractions.

### Problem 2

Han spent 75 minutes practicing the piano over the weekend. For each question, explain or show your reasoning.

- Priya practiced the violin for 152% as much time as Han practiced the piano. How long did she practice?
- Tyler practiced the clarinet for 64% as much time as Han practiced the piano. How long did he practice?

### Possible Solutions

- 114 minutes. Sample reasoning: 152% of 75 minutes is  $\frac{152}{100} \cdot 75 = 114$ .
- 48 minutes. Sample reasoning: 64% of 75 minutes is  $\frac{64}{100} \cdot 75 = 48$ .

### Problem 3

Last Sunday 1,575 people visited the amusement park. 56% of the visitors were adults, 16% were teenagers, and 28% were children ages 12 and under. Find the number of adults, teenagers, and children that visited the park.

### Possible Solutions

882 adults, 252 teenagers, and 441 children

**Problem 4**

Order from greatest to least:

- 55% of 180
- 300% of 26
- 12% of 700

**Possible Solutions**

55% of 180, 12% of 700, 300% of 26.

**Problem 5**

From Grade 6, Unit 3, Lesson 14

Complete each statement.

- |                        |                       |
|------------------------|-----------------------|
| a. 20% of 60 is _____  | d. 50% of 90 is _____ |
| b. 25% of _____ is 6   | e. 10% of _____ is 7  |
| c. _____% of 100 is 14 | f. 30% of 70 is _____ |

**Possible Solutions**

- a. 12
- b. 24
- c. 14
- d. 45
- e. 70
- f. 21

**Problem 6**

From Grade 6, Unit 3, Lesson 9

A shopper needs 24 sandwich rolls. The store sells identical rolls in 2 differently sized packages. They sell a six-pack for \$5.28 and a four-pack for \$3.40. Should the shopper buy 4 six-packs or 6 four-packs? Explain your reasoning.

**Possible Solutions**

6 four-packs is a better deal. The rolls in the six-pack are being sold at a rate of 88 cents each, because  $5.28 \div 6 = 0.88$ . The rolls in the four-pack are being sold at a rate of 85 cents each,

## Lesson 15 Practice Problems

because  $3.40 \div 4 = 0.85$ . The four-packs are a better deal, because the sandwich rolls have a cheaper unit rate.

### Problem 7

From Grade 6, Unit 2, Lesson 15

On a field trip, there are 3 chaperones for every 20 students. There are 92 people on the trip. Answer these questions. If you get stuck, consider using a tape diagram.

- a. How many chaperones are there?
- b. How many children are there?

### Possible Solutions

- a. 12
- b. 80

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## Lesson 16 Practice Problems

### Problem 1

A sign in front of a roller coaster says "You must be 40 inches tall to ride." What percentage of this height is:

- a. 34 inches?
- b. 54 inches?

### Possible Solutions

- a. 85%
- b. 135%

### Problem 2

At a hardware store, a tool set normally costs \$80. During a sale this week, the tool set costs \$12 less than usual. What percentage of the usual price is the savings? Explain or show your reasoning.

### Possible Solutions

Reasoning varies. Sample response: 15%, because  $12 \div 80 = \frac{3}{20} = \frac{15}{100}$ .

### Problem 3

A bathtub can hold 80 gallons of water. The faucet flows at a rate of 4 gallons per minute. What percentage of the tub will be filled after 6 minutes?

### Possible Solutions

30%, because the tub will hold 24 gallons after 6 minutes, and 24 is 30% of 80.

### Problem 4

From Grade 6, Unit 3, Lesson 15

The sale price of every item in a store is 85% of its usual price.

- a. The usual price of a backpack is \$30, what is its sale price?

- b. The usual price of a sweatshirt is \$18, what is its sale price?
- c. The usual price of a soccer ball is \$24.80, what is its sale price?

### Possible Solutions

- a. \$25.50
- b. \$15.30
- c. \$21.08

### Problem 5

From Grade 6, Unit 3, Lesson 9

A shopper needs 48 hot dogs. The store sells identical hot dogs in 2 differently sized packages. They sell a six-pack of hot dogs for \$2.10, and an eight-pack of hot dogs for \$3.12. Should the shopper buy 8 six-packs, or 6 eight-packs? Explain your reasoning.

### Possible Solutions

He should buy 8 six-packs. The hot dogs in the six-pack are being sold at a rate of 35 cents each, because  $2.10 \div 6 = 0.35$ . The hot dogs in the eight-pack are being sold at a rate of 39 cents each, because  $3.12 \div 8 = 0.39$ . The six-packs are a better deal, because the hot dogs have a cheaper unit rate.

### Problem 6

From Grade 6, Unit 3, Lesson 4

Elena is 56 inches tall.

- a. What is her height in centimeters? (Note: 100 inches = 254 centimeters)
- b. What is her height in meters?

### Possible Solutions

- a. 142.24 centimeters
- b. 1.42 meters