

Name \_\_\_\_\_

Period \_\_\_\_\_

## Unit 3 Rate and Percent Week of 12/17/18

Learning Targets from 6<sup>th</sup> Grade Common Core State Standards:

Lesson 12 Percentages and Tape Diagrams

- I can use tape diagrams to solve different problems like “What is 40% of 60?” or “60 is 40% of what number?”

Lesson 13 Benchmark Percentages

- When I read or hear that something is 10%, 25%, 50%, or 75% of an amount, I know what fraction of that amount they are referring to.

Lesson 14 Solving Percentages

- I can choose and create diagrams to help me solve problems about percentages.

Lesson 15 Finding This Percent of That

- I can solve different problems like “What is 40% of 60?” by dividing and multiplying.

Lesson 16 Finding the Percentage

- I can solve different problems like “60 is what percentage of 40?” by dividing and multiplying.

This Week's Vocabulary Words:

percent      double number line      tape diagram      rate      unit rate

Homework is due the following day.

Day	Class work—All in Spiral using iPad ☺	Homework	Complete	Correct
Monday	Lesson 12 and 13 Percentages and Tape Diagrams and Benchmark Percentages	Pages 1 & 2: Lesson 11 Practice Problems—All	/4	/8
Tuesday	Lesson 14 Solving Percentages	Pages 3 & 4: Lesson 12 and 13 Practice Problems (a mix)—All	/4	/16
Wednesday	Lesson 15 Finding This Percent of That	Pages 5 & 6: Lesson 14 Practice Problems—All	/4	/21
Thursday	Lesson 16 Finding the Percentage	Pages 7 & 8: Lesson 15 and 16 Practice Problems (a mix)—All	/4	/12
Friday	Assessment (short) Percents	None—have a restful break		
		Total	/16	
		Quality	/4	
		Total	/20	

Homework Quality—Remember, if you don't know how to complete a problem you should read it again and write down the information you have, draw a picture, or write a question you have, please do not leave blank or write “?” or idk. You can also come in and get help before school☺!

- Work is **thorough** with **detailed** explanations (2 pts)  
 Homework is corrected (with additions needed) in a different color pen/pencil (2 pts)

NAME \_\_\_\_\_

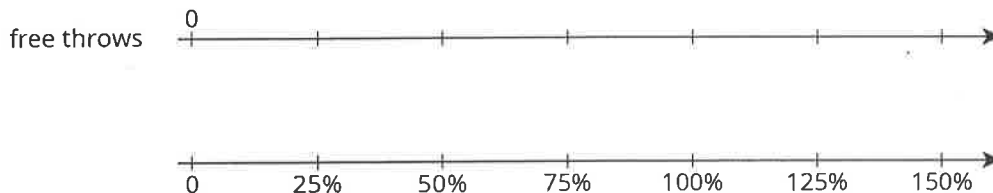
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## Unit 3, Lesson 11: Percentages and Double Number Lines

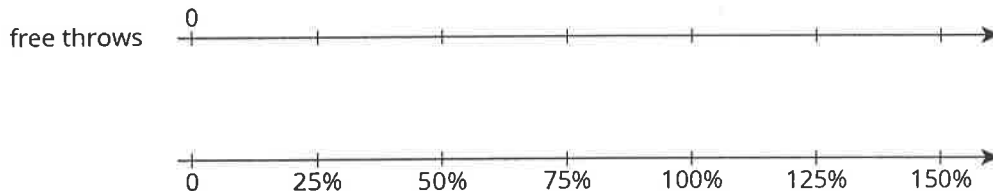
1. Solve each problem. If you get stuck, consider using the double number lines.

- 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?

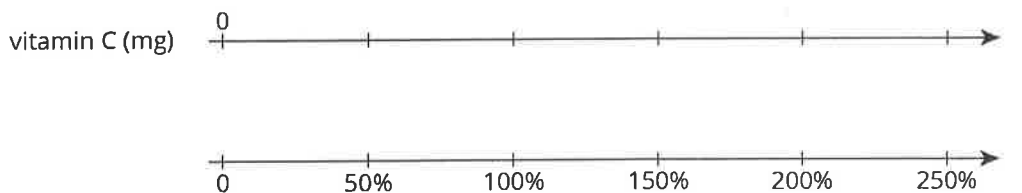


- b. Yesterday, Priya successfully made 12 free throws. Today, she made 150% as many. How many successful free throws did Priya make today?

12



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?



1

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.

1

4. 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.

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

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

1/2

(from Unit 3, Lesson 9)

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

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

(from Unit 3, Lesson 7)

1/2

1/8

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## Unit 3, Lesson 12: Percentages and Tape Diagrams

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

Priya's distance (km)	2	2	2	2	2
Tyler's distance (km)	2	2	2	2	

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

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

1/2

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.

1

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?

b. How many band members are seventh graders?

c. What percentage of the band members are eighth graders? Explain your reasoning.

1/3

4. 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.

1

(from Unit 3, Lesson 11)

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## Unit 3, Lesson 13: Benchmark Percentages

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

13

savings (dollars)	percentage
35	10
?	100

1

3. Explain how to calculate these mentally.
  - a. 15 is what percentage of 30?
  - b. 3 is what percentage of 12?
  - c. 6 is what percentage of 10?
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.
5. 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.

13

1

1

(from Unit 3, Lesson 10)

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## Unit 3, Lesson 14: Solving Percentage Problems

1. For each problem, explain or show your reasoning.

a. 160 is what percentage of 40?

b. 40 is 160% of what number?

c. What number is 40% of 160?

13

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.

/1

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.

1

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

13

5. 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?

12

(from Unit 3, Lesson 8)

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

1

(from Unit 3, Lesson 4)

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

a. The distance of a doorknob from the floor is about 1 \_\_\_\_\_.

b. The thickness of a fingernail is about 1 \_\_\_\_\_.

c. The volume of a drop of honey is about 1 \_\_\_\_\_.

d. The weight or mass of a pineapple is about 1 \_\_\_\_\_.

e. The thickness of a picture book is about 1 \_\_\_\_\_.

f. The weight or mass of a buffalo is about 1 \_\_\_\_\_.

g. The volume of a flower vase is about 1 \_\_\_\_\_.

h. The weight or mass of 20 staples is about 1 \_\_\_\_\_.

i. The volume of a melon is about 1 \_\_\_\_\_.

j. The length of a piece of printer paper is about 1 \_\_\_\_\_.

10

(from Unit 3, Lesson 2)

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## Unit 3, Lesson 15: Finding This Percent of That

1. a. 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.

b. If  $x$  represents a number, does  $\frac{2}{5} \cdot x$  always represent 40% of that number? Explain your reasoning.

$\frac{1}{2}$

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

a. Priya practiced the violin for 152% as much time as Han practiced the piano. How long did she practice?

b. Tyler practiced the clarinet for 64% as much time as Han practiced the piano. How long did he practice?

$\frac{1}{2}$

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.

$\frac{1}{1}$

4. Order from greatest to least:

- 55% of 180
- 300% of 26

$\frac{1}{1}$



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## Unit 3, Lesson 16: Finding the Percentage

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?

1/2

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.

1

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?

1/1

4. 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?

1/2

1/12