FL State Adoption Bid # 3691

Eureka Math™ Exit Ticket Packet

Grade 7 Module 4

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Name _____ Date _____

Lesson 1: Percent

Exit Ticket

1. Fill in the chart converting between fractions, decimals, and percents. Show work in the space provided.

Fraction	Decimal	Percent
$\frac{1}{8}$		
	1.125	
		$\frac{2}{5}\%$

2. Using the values from the chart in Problem 1, which is the least and which is the greatest? Explain how you arrived at your answers.

Name _____ Date _____

Lesson 2: Part of a Whole as a Percent

Exit Ticket

1. On a recent survey, 60% of those surveyed indicated that they preferred walking to running.
   a. If 540 people preferred walking, how many people were surveyed?

   b. How many people preferred running?

2. Which is greater: 25% of 15 or 15% of 25? Explain your reasoning using algebraic representations or visual models.

Name _____ Date _____

Lesson 3: Comparing Quantities with Percent

Exit Ticket

Solve each problem below using at least two different approaches.

1. Jenny's great-grandmother is 90 years old. Jenny is 12 years old. What percent of Jenny's great-grandmother's age is Jenny's age?

2. Jenny's mom is 36 years old. What percent of Jenny's mother's age is Jenny's great-grandmother's age?

Name _____ Date _____

Lesson 4: Percent Increase and Decrease

Exit Ticket

Erin wants to raise her math grade to a 95 to improve her chances of winning a math scholarship. Her math average for the last marking period was an 81. Erin decides she must raise her math average by 15% to meet her goal. Do you agree? Why or why not? Support your written answer by showing your math work.

Name _____ Date _____

Lesson 5: Finding One Hundred Percent Given Another Percent

Exit Ticket

1. A tank that is 40% full contains 648 gallons of water. Use a double number line to find the maximum capacity of the water tank.

2. Loretta picks apples for her grandfather to make apple cider. She brings him her cart with 420 apples. Her grandfather smiles at her and says, "Thank you, Loretta. That is 35% of the apples that we need."

   Use mental math to find how many apples Loretta's grandfather needs. Describe your method.

Name _____ Date _____

Lesson 6: Fluency with Percents

Exit Ticket

1. Parker was able to pay for 44% of his college tuition with his scholarship. The remaining $\$10{,}054.52$ he paid for with a student loan. What was the cost of Parker's tuition?

2. Two bags contain marbles. Bag A contains 112 marbles, and Bag B contains 140 marbles. What percent fewer marbles does Bag A have than Bag B?

3. There are 42 students on a large bus, and the rest are on a smaller bus. If 40% of the students are on the smaller bus, how many total students are on the two buses?

Name _____ Date _____

Lesson 7: Markup and Markdown Problems

Exit Ticket

A store that sells skis buys them from a manufacturer at a wholesale price of $\$57$. The store's markup rate is 50%.

a. What price does the store charge its customers for the skis?

b. What percent of the original price is the final price? Show your work.

c. What is the percent increase from the original price to the final price?

Name _____ Date _____

Lesson 8: Percent Error Problems

Exit Ticket

1. The veterinarian weighed Oliver's new puppy, Boaz, on a defective scale. He weighed 36 pounds. However, Boaz weighs exactly 34.5 pounds. What is the percent of error in measurement of the defective scale to the nearest tenth?

2. Use the π key on a scientific or graphing calculator to compute the percent of error of the approximation of pi, 3.14, to the value π. Show your steps, and round your answer to the nearest hundredth of a percent.

3. Connor and Angie helped take attendance during their school's practice fire drill. If the actual count was between 77 and 89, inclusive, what is the most the absolute error could be? What is the most the percent error could be? Round your answer to the nearest tenth of a percent.

Name _____ Date _____

Lesson 9: Problem Solving When the Percent Changes

Exit Ticket

Terrence and Lee were selling magazines for a charity. In the first week, Terrance sold 30% more than Lee. In the second week, Terrance sold 8 magazines, but Lee did not sell any. If Terrance sold 50% more than Lee by the end of the second week, how many magazines did Lee sell?

Choose any model to solve the problem. Show your work to justify your answer.

Name _____ Date _____

Lesson 10: Simple Interest

Exit Ticket

1. Erica's parents gave her $\$500$ for her high school graduation. She put the money into a savings account that earned 7.5% annual interest. She left the money in the account for nine months before she withdrew it. How much interest did the account earn if interest is paid monthly?

2. If she would have left the money in the account for another nine months before withdrawing, how much interest would the account have earned?

3. About how many years and months would she have to leave the money in the account if she wants to reach her goal of saving $\$750$?

Name _____ Date _____

Lesson 11: Tax, Commissions, Fees, and Other Real-World Percent Problems

Exit Ticket

Lee sells electronics. He earns a 5% commission on each sale he makes.

a. Write an equation that shows the proportional relationship between the dollar amount of electronics Lee sells, d, and the amount of money he makes in commission, c.

b. Express the constant of proportionality as a decimal.

c. Explain what the constant of proportionality means in the context of this situation.

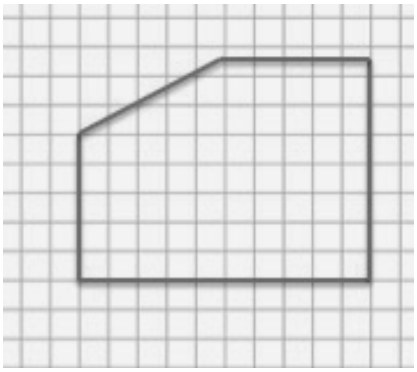
d. If Lee wants to make $\$100$ in commission, what is the dollar amount of electronics he must sell?

Name _____ Date _____

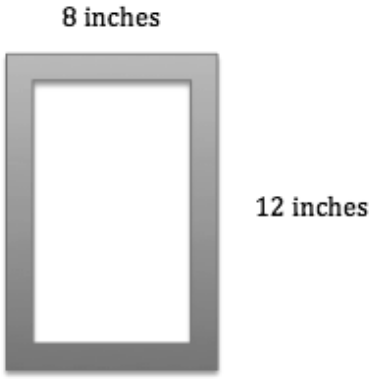
Lesson 12: The Scale Factor as a Percent for a Scale Drawing

Exit Ticket

1. Create a scale drawing of the picture below using a scale factor of 60%. Write three equations that show how you determined the lengths of three different parts of the resulting picture.



2. Sue wants to make two picture frames with lengths and widths that are proportional to the ones given below. Note: The illustration shown below is not drawn to scale.



a. Sketch a scale drawing using a horizontal scale factor of 50% and a vertical scale factor of 75%. Determine the dimensions of the new picture frame.

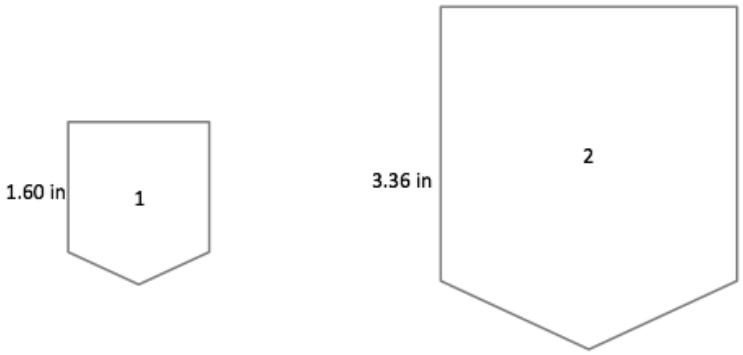
b. Sketch a scale drawing using a horizontal scale factor of 125% and a vertical scale factor of 140%. Determine the dimensions of the new picture frame.

Name _____ Date _____

Lesson 13: Changing Scales

Exit Ticket

1. Compute the scale factor, as a percent, for each given relationship. When necessary, round your answer to the nearest tenth of a percent.

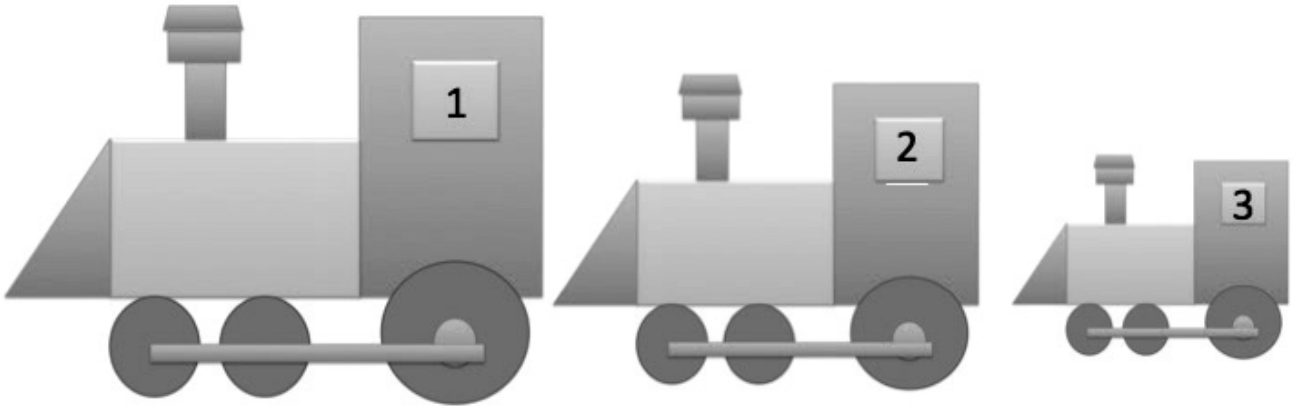


a. Drawing 1 to Drawing 2

b. Drawing 2 to Drawing 1

c. Write two different equations that illustrate how each scale factor relates to the lengths in the diagram.

2. Drawings 2 and 3 are scale drawings of Drawing 1. The scale factor from Drawing 1 to Drawing 2 is 75%, and the scale factor from Drawing 2 to Drawing 3 is 50%. Find the scale factor from Drawing 1 to Drawing 3.

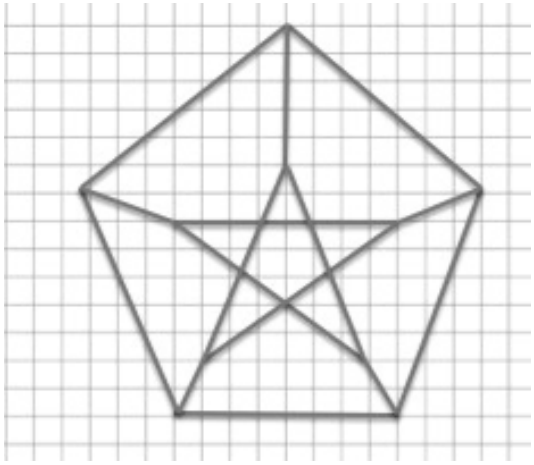


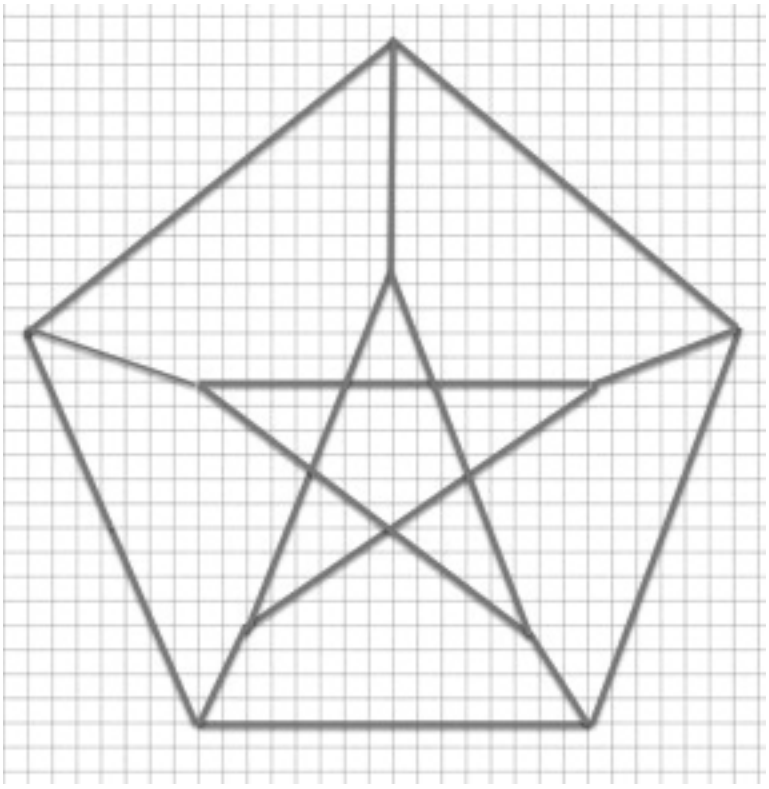
Name _____ Date _____

Lesson 14: Computing Actual Lengths from a Scale Drawing

Exit Ticket

Each of the designs shown below is to be displayed in a window using strands of white lights. The smaller design requires 225 feet of lights. How many feet of lights does the enlarged design require? Support your answer by showing all work and stating the scale factor used in your solution.



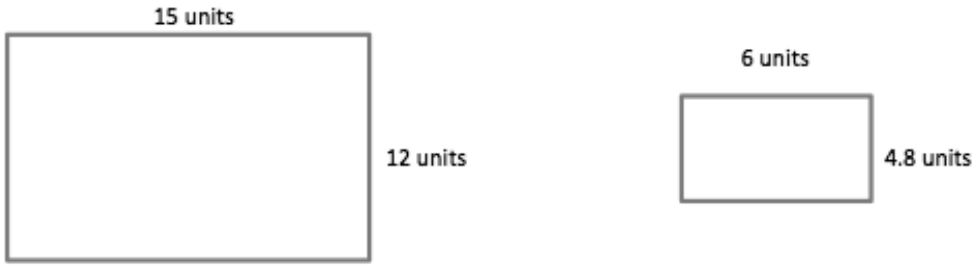


Name _____ Date _____

Lesson 15: Solving Area Problems Using Scale Drawings

Exit Ticket

Write an equation relating the area of the original (larger) drawing to its smaller scale drawing. Explain how you determined the equation. What percent of the area of the larger drawing is the smaller scale drawing?



Name _____ Date _____

Lesson 16: Population Problems

Exit Ticket

1. Jodie spent 25% less buying her English reading book than Claudia. Gianna spent 9% less than Claudia. Gianna spent more than Jodie by what percent?

2. Mr. Ellis is a teacher who tutors students after school. Of the students he tutors, 30% need help in computer science and the rest need assistance in math. Of the students who need help in computer science, 40% are enrolled in Mr. Ellis's class during the school day. Of the students who need help in math, 25% are enrolled in his class during the school day. What percent of the after-school students are enrolled in Mr. Ellis's classes?

Name _____ Date _____

Lesson 17: Mixture Problems

Exit Ticket

A 25% vinegar solution is combined with triple the amount of a 45% vinegar solution and a 5% vinegar solution resulting in 20 milliliters of a 30% vinegar solution.

1. Determine an equation that models this situation, and explain what each part represents in the situation.

2. Solve the equation and find the amount of each of the solutions that were combined.

Name _____ Date _____

Lesson 18: Counting Problems

Exit Ticket

There are a van and a bus transporting students on a student camping trip. Arriving at the site, there are 3 parking spots. Let v represent the van and b represent the bus. The chart shows the different ways the vehicles can park.

a. In what percent of the arrangements are the vehicles separated by an empty parking space?

b. In what percent of the arrangements are the vehicles parked next to each other?

	Parking Space 1	Parking Space2	Parking Space 3
Option 1	V	B	
Option 2	V		B
Option 3	B	V	
Option 4	B		V
Option 5		V	B
Option 6		B	V

c. In what percent of the arrangements does the left or right parking space remain vacant?