

**Math 7 Unit 5 Study Guide**

Directions: Answer each question completely. Show ALL work to defend your answers.

1. Solve:

a. 48 is what percent of 80?

60%

$$\frac{x}{100} = \frac{48}{80}$$

$$48(100) = 4800$$

$$4800 \div 80 = 60$$

b. 15% of what number is 32?

213  $\frac{1}{3}$  or 213. $\bar{3}$

$$\frac{15}{100} = \frac{32}{x}$$

$$32(100) = 3200$$

$$3200 \div 15 = 213.\bar{3}$$

c. 76% of 30 is what number?

22.8

$$\frac{76}{100} = \frac{x}{30}$$

$$76(30) = 2280$$

$$2280 \div 100 = 22.8$$

2. The price of gasoline rose from \$2.92 to \$6.57.

a. What is the percent increase?

$$6.57 - 2.92 = 3.65 \quad \frac{3.65}{2.92} = 1.25 \quad 125\%$$

b. If the price reverses from \$6.57 to \$2.92, what is the percent decrease? (Round your answer to the nearest tenth.)

$$6.57 - 2.92 = 3.65 \quad \frac{3.65}{6.57} = 0.555 \quad 55.5\%$$

3. Ms. Russell's car used 18 gallons of gasoline to go 468 miles. At that rate, how many gallons would be used to go 754 miles? Explain how you know.

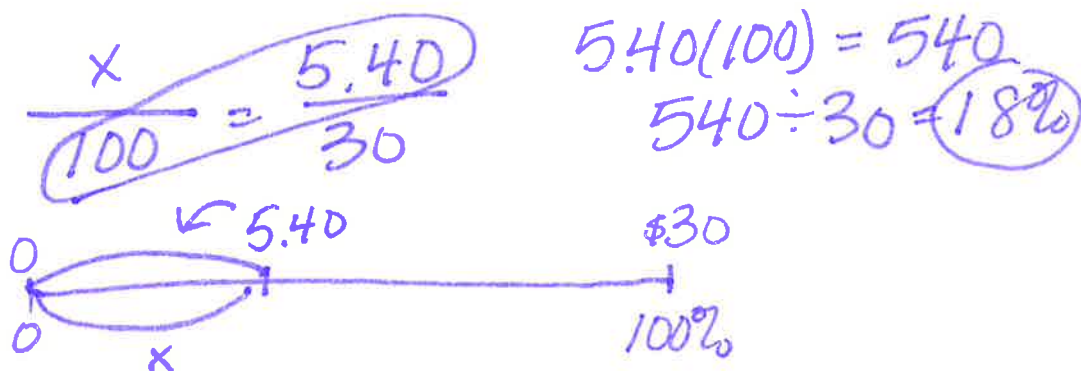
$$\frac{18 \text{ gallons}}{468 \text{ miles}} = \frac{\text{gal}}{754 \text{ miles}}$$

$$18(754) = 13,572$$

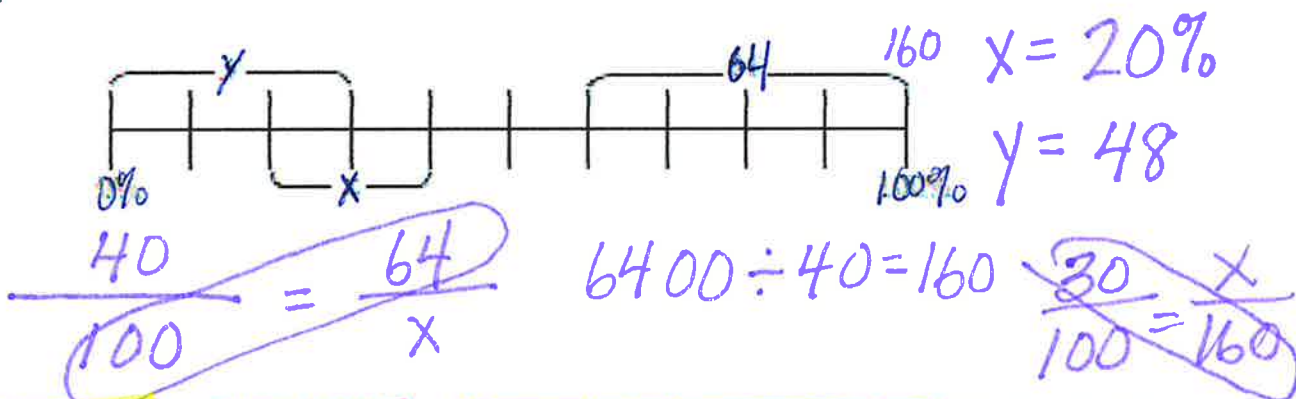
$$13,572 \div 468 =$$

29 gal

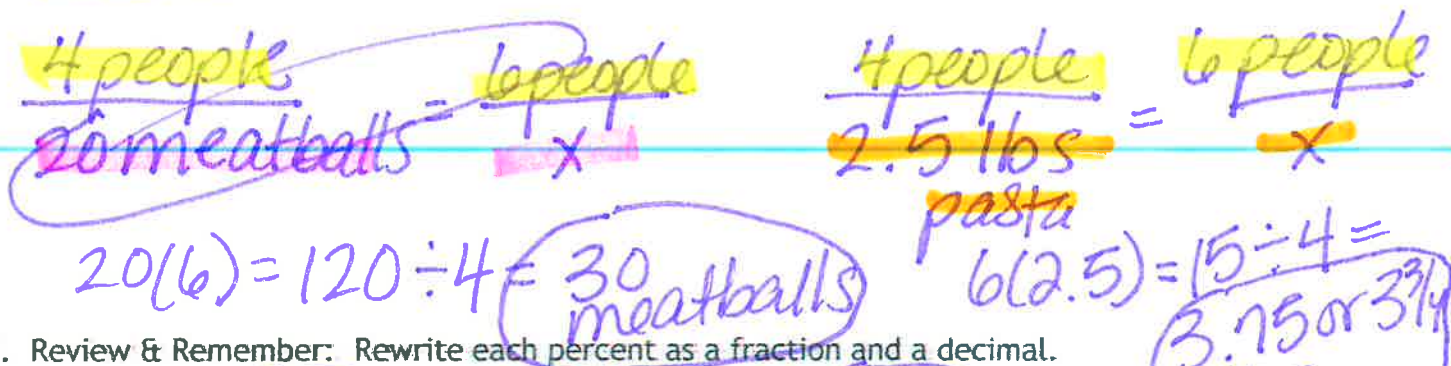
4. Mrs. Mahar gave her waiter a \$5.40 tip on a \$30 bill. What percent tip did she give the waiter? Create a linear model to represent this and use it to calculate the answer.



5. Assuming that the line is evenly divided, calculate all the missing values on each diagram below.



6. My family of four eats 20 meatballs and two and a half pounds of pasta on spaghetti night. How many meatballs and how much pasta will we need when my grandparents (just two people) join us for spaghetti night? Show your work.



7. Review & Remember: Rewrite each percent as a fraction and a decimal.

