

Name _____
Date _____ Period _____

Ratios & Proportions Unit REVIEW

Maria made a graph that represents the number of miles she drove, y , compared to the number of gallons of gas her car used, x . The graph is a straight line that passes through the **origin** and the point $(3, 85.5)$.

1. Which statement **must** be true?
 - A) The slope of the graph is 3.
 - B) Maria's car uses 28.5 gallons of gas per mile.
 - C) The y -intercept of the graph is 85.5.
 - D) Maria can drive 28.5 miles per gallon.

2. What would the point on the graph at $(0,0)$ mean in Maria's situation? (*Explain*)

3. Francesco is making calzones. The number of table spoons of olive oil he uses is **proportional** to the number of calzones he makes.

Francesco uses $5\frac{1}{4}$ tablespoons of olive oil to make 3 calzones.

Which equation represents the relationship between t , the number of table spoons of olive oil Francesco uses, and c , the number of calzones he makes?

- A) $t = 15\frac{1}{4}c$
- B) $t = \frac{4}{7}c$
- C) $t = 2\frac{1}{4}c$
- D) $t = 1\frac{3}{4}c$

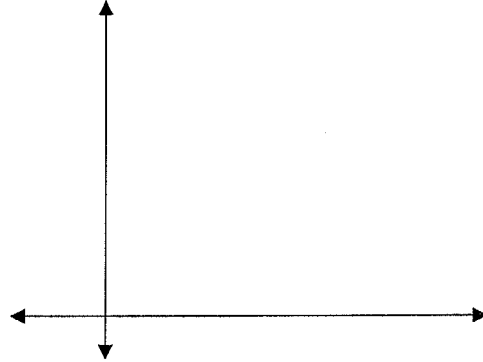
4. To make green paint, you can mix 2 parts blue with 6 parts yellow. Drake mixes 4 teaspoons of blue with 20 teaspoons of yellow.

a. Write the **2 ratios** represented in this problem _____ and _____

b. Use a **ratio table** and a **graph** to show whether these ratios are **proportional**. (*Explain how you find your answer*)

Ratio table:

Graph:



Are they proportional? *Explain:*

c. How will Drake's green look compared to the first green mixture? (*Explain*)

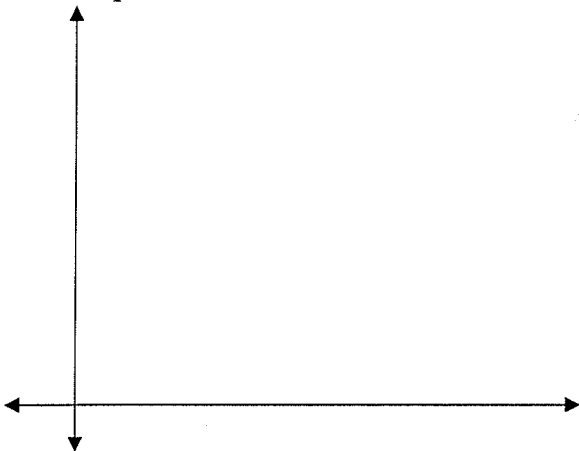
5. A recipe for soda calls for 3 cups syrup for every 9 liters carbonated water. Write a proportion to find how many cups of syrup should be used with 15 liters of carbonated water. *Solve the proportion using a ratio table, graph the relationship, then write its constant of proportionality (unit rate) and an equation.*

Proportion:

Ratio Table:

Graph:

Constant of Proportionality:



Equation:

6. The jeans that Natalie wants cost \$40 per pair. A store is offering the following deal. Buy 2 pairs of jeans and get the 3rd pair for 60% off! Natalie will buy 3 pairs using the deal. The sales tax is 7%.

a. How much would 3 pairs of jeans cost at regular price?

b. How much would 1 pair cost at 60% off?

c. How much would she pay for all 3 pairs with the **discount**?

d. Complete the table for sales tax:

	3 pairs at regular price	3 pairs with the discount
Calculate the sales tax		
Find the total (including sales tax)		

e. How much money will Natalie save by using the deal versus paying the full price for all 3 pairs?

7. A person eats $\frac{1}{3}$ of an apple in $\frac{3}{4}$ hour. Use a **ratio table** to compute the **unit rate** (apples per hour).

8. The value of y is **proportional** to the value of x . The **constant of proportionality** (unit rate) for this relationship is $\frac{4}{3}$. On the grid below, graph this proportional relationship.

