

Name: \_\_\_\_\_

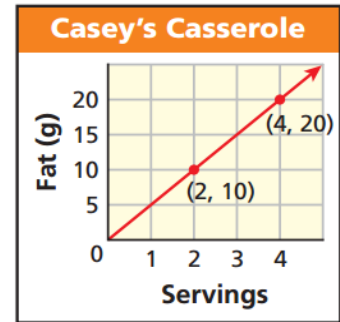
Date: \_\_\_\_\_

**AIM:** How can we practice with rates, unit rates and proportions?

**Do Now:** Consider the graph pictured below that represents the relationship between the amount of servings in a casserole and the amount of fat grams consumed.

a) Complete the table below using the graph.

<b>Servings</b>	0	1	2	3	4
<b>Fat (grams)</b>	0				



b) What is the constant of proportionality?

c) Write an equation to represent the situation.

d) Use the equation to find out the number of grams of fat for  $27\frac{1}{2}$  servings of Casey's Casserole.

**Find the constant of proportionality for each proportional relationship below. Then write an equation that represents the relationship between x and y.**

1)

<b>X</b>	2	4	6
<b>Y</b>	30	60	90

2)

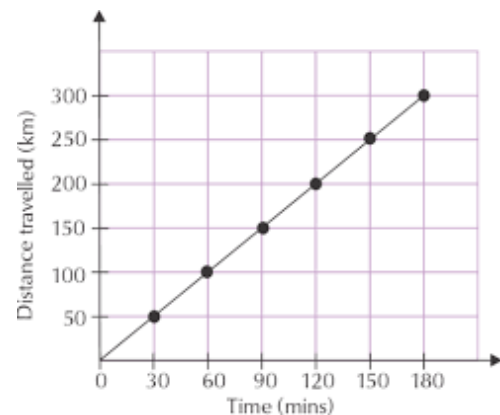
<b>X</b>	8	16	24
<b>Y</b>	2	4	6

3) The number of pounds of cashews purchased is proportional to the price. Two pounds of cashews cost \$19 and 8 pounds cost \$76.

a) Determine the constant of proportionality.      b) Write an equation that represents the relationship.

c) Using your equation, find the cost of 3 pounds of cashews.

4) Write an equation that represents the relationship displayed by the graph. Using your equation, determine the distance traveled in  $7\frac{1}{2}$  hours.



- 5) Examine the graph and complete a – c.  
a. Interpret the meaning of x and y coordinates of each plotted point.

(2,7)

(5, 17.5)

- b. Does the graph display a proportional relationship? Justify your response.

- c. Calculate the constant of proportionality.

- d. Write the equation of the graph.

- 6) Write each ratio as a single fraction in simplest form.

a.) 18 red buttons: 12 blue buttons

b.)  $\frac{5}{4}$  inches to  $\frac{2}{3}$  inch

- 7) Tell whether the two rates form a proportion.

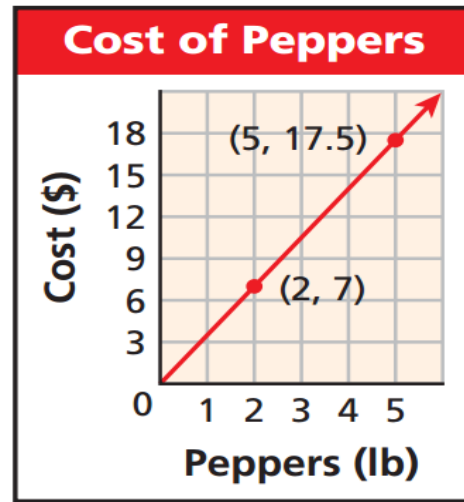
a.) 75 miles in 3 hours; 140 miles in 4 hours    b.) 12 gallons in 4 minutes; 21 gallons in 7 minutes

c.) 150 steps in 50 feet; 72 steps in 24 feet    d.) 3 rotations in 675 days; 2 rotations in 730 days

- 8) You spend 150 minutes in 3 classes. Write and solve a proportion to find out how many minutes you spend in 5 classes.

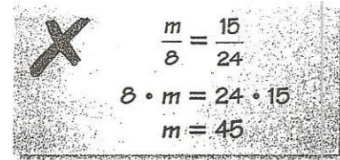
- 9) You can buy 3 T-shirts for \$24. Write a proportion that gives you the cost of buying 7 T-shirts.

- 10) A school requires 2 computers for every 5 students. Write a proportion that gives the number of computers needed for 145 students.



11) The school team has 80 swimmers. The ratio of seventh-grade swimmers to all swimmers is 5:16. Write a proportion that finds the number of seventh grade swimmers.

12.) Describe and correct the error in solving the proportion.


$$\frac{m}{8} = \frac{15}{24}$$
$$8 \cdot m = 24 \cdot 15$$
$$m = 45$$

13.) Solve the proportions:

a.)  $\frac{2x}{5} = \frac{9}{15}$

b.)  $\frac{5}{2} = \frac{d-2}{4}$

14) The graph shows the distance that sounds travels through steel.

a.) Is this a proportional graph? Justify.

b.) What is the meaning of (2,12) in the context of this problem?

c.) What is the constant of proportionality?

d.) What is the equation of the graph?

