

## Unit 4: Rate of Change & Linear Relationships

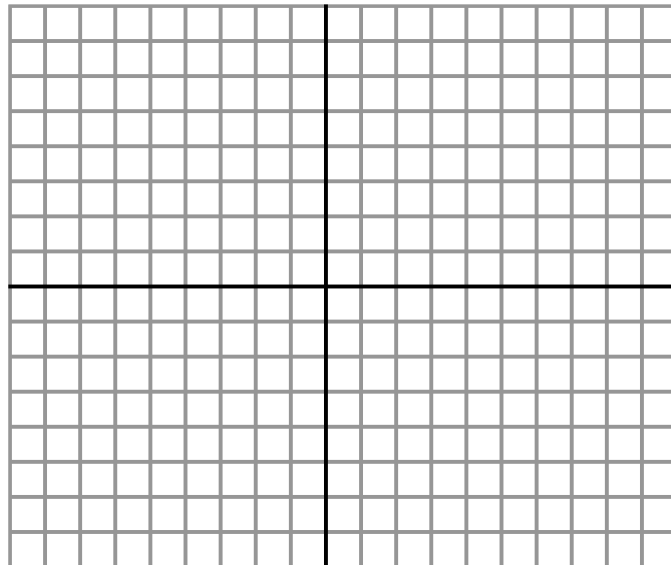
### Quiz Study Guide

Directions: Answer all parts of the following questions about proportional relationships. Show all work. Be sure to include all appropriate units.

- 1) Ruben spent \$6.00 on eight granola bars.
- a) Find the unit cost.
  - b) Write the equation that models this situation.
  - c) First, indicate what x and y both represent. Then, use the equation you wrote in part b to complete the table.

_____ (x)	0	4	8	12	16
_____ (y)					

- d) Graph the line that models this situation by plotting and connecting the points from the table.



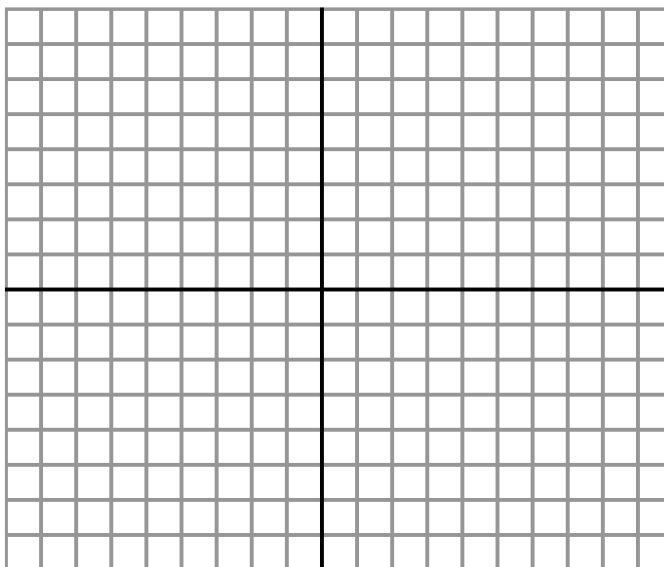
- e) What is the slope of the line?

2) Mike bought five notebooks for \$12.50.

- a) Find the unit cost.
- b) Write the equation that models this situation.
- c) First, indicate what x and y both represent. Then, use the equation you wrote in part b to complete the table.

_____ (x)	0	1	2	3	4
_____ (y)					

- d) Graph the line that models this situation by plotting and connecting the points from the table.



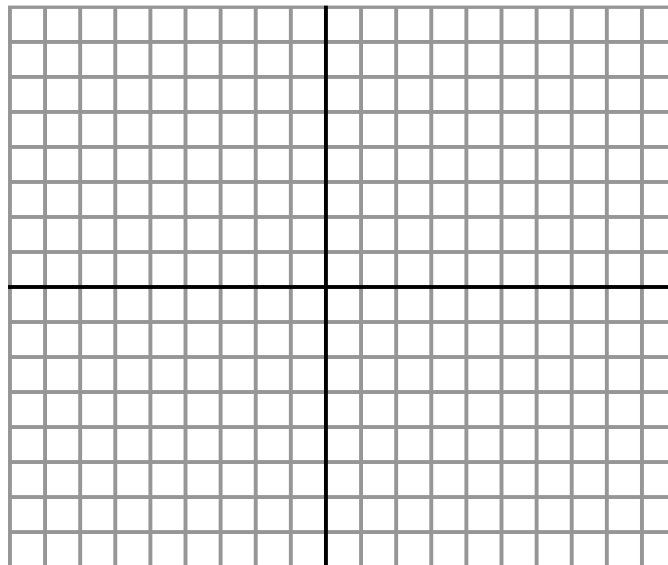
- e) What is the ***rate of change***?

3) Dana baked eight pies in four days.

- a) Find the unit rate.
- b) Write the equation that models this situation.
- c) First, indicate what x and y both represent. Then, use the equation you wrote in part b to complete the table.

_____ (x)	0	1	2	3	4
_____ (y)					

- d) Graph the line that models this situation by plotting and connecting the points from the table.



- e) What is the slope of the line?

Directions: Determine if the ratios below are proportional. Either simplify both fractions and compare or check for a scale factor. Show all work.

4)  $\frac{1}{3} \square \frac{16}{45}$

5)  $-\frac{2}{3} \square -\frac{16}{24}$

6)  $\frac{10}{25} \square \frac{-22}{-55}$

Directions: Answer the following questions about slope. Show all work used to support your answers.

7) If the slope of the line that contains points A and B is  $\frac{6}{15}$  and the slope of the line that contains points A and C is  $-\frac{14}{35}$ , are points A, B, and C collinear?

8) Point A has coordinates (-5, 0), Point B has coordinates (0, -2), and Point C has coordinates (10, -6), are A, B, and C collinear?

