

Lesson 4 Reteach

Equations in $y = mx$ Form

- A **linear relationship** is proportional when the ratio of y to x is a constant, m .
- $y = mx$, where m is the slope and $m \neq 0$
- Since $(0, 0)$ is one solution of $y = mx$, the graph of proportional linear relationship passes through the origin.

Example

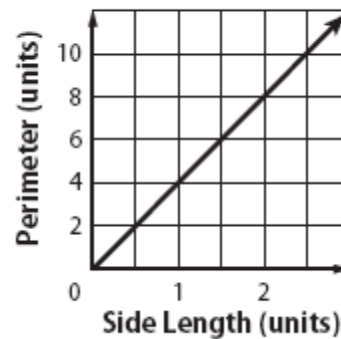
The perimeter of a square y and the unit length of one of its sides x are in a proportional linear relationship. This situation can be represented by $y = 4x$. Graph the equation. Determine and interpret the slope.

Make a table of values. Then graph the equation $y = 4x$. In the equation of a proportional linear relationship, m represents the slope. In the table, the slope is the constant rate of change or unit rate.

So, the slope of the line is $\frac{4}{1}$.

Side Length, x	$y = 4x$	Perimeter, y
0	$y = 4(0)$	0
1	$y = 4(1)$	4
2	$y = 4(2)$	8

Perimeter of a Square



Exercises

1. The amount a pizzeria charges and the number of toppings on a large pizza are in a proportional relationship as shown in the graph at the right. Determine the unit rate or cost per topping.
2. Ten seconds after an elevator departed, it had descended 60 feet. After 25 seconds it had descended 150 feet. If the number of feet descended and time are in a proportional linear relationship, at what rate is the elevator descending?

Tony's Pizzeria

