

Digits Lesson 5-1

Proportional Relationships

11/20/2019

1

Goal: I will be able to **recognize a proportional relationship**

Tool Bag
Formulas, equations,
Vocabulary, etc

Here's How... Notes & Examples

Proportional Relationship

- 1) In table, the number change is constant, or the ratio y to x is constant
- 2) In a graph, it is a straight line and it passes through the origin $(0,0)$
- 3) In an equation, where $y=kx$ where k is a constant

2

Example

Sales tax is 9%. Make a table, a graph, and equation to represent tax on a purchase.

Table

Pr. w	tax
0	0
100	9
200	18
300	27

Equation

$$y = kx$$


$$9 = k \cdot 100$$

$$\frac{9}{100} = \frac{k \cdot 100}{100}$$

$$0.09 = k$$

$$y = 0.09x$$

3

 TRY

You run at a constant rate of 30 feet every 3 seconds. Make a table, graph, and equation.

Table

time	distance
0	0
3	30
6	60
9	90

Equation

$$y = kx$$

$$\frac{30}{3} = \frac{k \cdot 3}{3}$$

$$10 = k$$

$$y = 10x$$

$$d = 10t$$

4

Linear Equation

$$y = mx$$

where m is a constant that can be an integer, fraction, or decimal

Example

$$y = 3x \quad y = \frac{2}{3}x \quad y = 0.09x$$