

Name: _____ Date: _____ Period: _____

Worksheet 3.R: Building Linearity Review | Chapter 3

Learning Goal: I can write an equation for a direct variation situation. (8.EE.5, 8.EE.6, 8.F.2, 8.F.4)

1. A direct variation relationship is: Linear Non-Linear
(Circle the correct answer.)
2. In a direct variation relationship, the line has a _____.
(Hint: This is the same as slope, makes the graph look like a straight line.)
3. In a direct variation, the line is called _____.
(Hint: The y-intercept of the graph is at (0, 0).)

Remember:

The slope for each direct variation can just be found by putting y over x. So the slope is $\frac{y}{x}$.

The equation for each direct variation will always be in the form **$y=mx$** .
The only thing that will change is m , which is the slope.

For Exercises 3–4, determine whether each linear function is a direct variation. If so, state the constant of variation (the slope).

3.

Hours, x	11	12	13	14
Distance, y (miles)	154	167	180	193

4.

Age, x	8	9	10	11
Grade, y	3	4	5	6

For Exercises 5–7, y varies directly with x . Write an equation for the direct variation. Then find each value.

5. If $y = 8$ when $x = 3$, find y when $x = 45$.
6. If $y = -4$ when $x = 10$, find y when $x = 2$.
7. If $y = 27$ when $x = 8$, find y when $x = 11$.

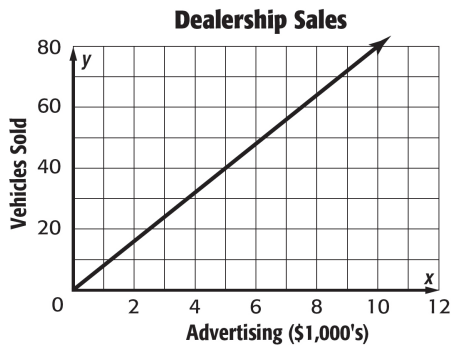
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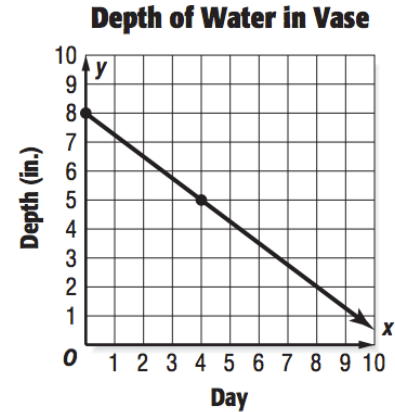
Learning Goals: - 1 can write an equation for a direct variation situation. (8.EE.5, 8.EE.6, 8.F.2, 8.F.4)
- 1 can find the slope of a line. (8.EE.5)

Find the constant rate of change and interpret it's meaning.

1.



2.



Learning Goal: 1 can find the unit rate for a given situation. (7.RP)

Use unit rates to help you solve the following situation.

1. A brownie recipe calls for $\frac{1}{2}$ cup of vegetable oil to make 12 servings. How much vegetable oil is required to make 18 servings?

2. A pasta salad recipe that serves 8 people requires 12 ounces of pasta. How many ounces are required to make enough to serve 50 people?



Learning Goal: 1 can find the slope of a line. (8.EE.5)

Find the slope of the line that crosses the following points. (Hint: use slope formula)

1. (-2, 5) and (1, -7)

2. (7, 4) and (-3, -3)

3. (3, 3) and (-7, -4)