**5.6: Direct Variation**

Plot the point in a coordinate plane. Describe the location of the point.

 1. ** 2. **

 3. ** 4. **

 5. ** 6. **

You receive $20 every time you mow your neighbor’s lawn. How many times do you need to mow the lawn so that you can buy a digital camera that costs $189? Write an equation to represent the situation. Does the equation show direct variation? Why or why not?

Graph the ordered pairs in a coordinate plane. Do you think that the graphs show
that the quantities vary directly? Explain
your reasoning.

 1. 

 2. 

 3. 

Graph the ordered pairs in a coordinate plane. Do you think that graph shows that the quantities vary directly? Explain your reasoning.

 1. (–2, –2), (0, 0), (2, 2), (4, 4) 2. (–1, –4), (0, –1), (1, 2), (2, 5)

Tell whether *x* and *y* show direct variation. Explain your reasoning. If so, find *k*.

 3. 4.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***x*** |  | 0 | 1 | 2 |
| ***y*** | 2 | 0 | 2 | 4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***x*** | 2 | 4 | 6 | 8 |
| ***y*** | 1 | 2 | 3 | 4 |

 5.  6.  7. 

 8. The table shows the grams of fiber *y* for the grams
of protein *x*. Graph the data. Tell whether *x* and *y*
show direct variation. If so, write an equation that
represents the line.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grams of protein, *x*** | 3 | 6 | 9 | 12 |
| **Grams of fiber, *y*** | 2 | 4 | 6 | 8 |

The variables *x* and *y* vary directly. Use the values to find the constant of proportionality and write an equation that relates *x* and *y*.

 9. ** 10. ** 11. **

 12. To prepare an aquarium for use, you can clean it with a saltwater solution.
The amount of salt varies directly with the volume of the water. The solution
has 2 teaspoons of aquarium salt for every gallon of water.

 a. How many teaspoons of aquarium salt are needed for 5 gallons of water?

 b. Write an equation that relates *x* gallons of water to *y* teaspoons of salt.

 c. Use the equation to find the number of gallons of water to use for
12 teaspoons of salt.

 13. The total cost of football tickets varies directly with the number of tickets purchased. Four tickets cost $32. How many tickets can you buy for $56?