Chapter 5 Algebra1
Graphs of Functions

Graph each function on graph paper using the given domain. Draw a separate graph for each function.

1. $y = x + 2$, domain = {-1, 0, 3}
2. $y = -2x$, domain = {-2, 1, 2, 3}
3. $y = \frac{1}{2}x - 1$ domain = $\{2 \leq x \leq 10\}$
4. $y = x^2$ domain = $\{-2 \leq x \leq 3\}$
5. $y = 2x - 3$ domain = $\mathbb{R}$
6. $y = -x + 6$ domain = $\mathbb{R}$

Solve for the y-value of the function at the given x-value.

7. f(x) = 3x -5
   a. f(2) =
   b. f(5) =
   c. f(-1) =
8. g(x) = - ½x + 4
   a. g(6) =
   b. g(-6) =
   c. g(0) =

$y = kx$	$y = \frac{k}{x}$
Direct	Inverse

Find the constant of variation *k* and write the function rule.

9. y varies directly with x, and y = 20 when x = 2.5.
10. y varies directly with x, and y = 3 when x = 18.
11. y varies inversely with x, and y = 6 when x = 4.
12. y varies inversely with x, and y = 11 when x = 3.

Use a proportion to solve these direct variation equations. $\frac{y_1}{x_1} = \frac{y_2}{x_2}$

13. If y is directly proportional to x, and y = 10 when x = 2, what will y equal when x = 7?
14. If y is directly proportional to x, and y = 6 when x = 8, what will y equal when x = 20?
15. If y is directly proportional to x, and y = 25 when x = 6, what will y equal when x = 18?

Use equal products to solve these inverse variation equations. $x_1 \cdot y_1 = x_2 \cdot y_2$

16. If y is inversely proportional to x, and y = 10 when x = 2, what will y equal when x = 5?
17. If y is inversely proportional to x, and y = 6 when x = 3, what will y equal when x = 12?
18. If y is inversely proportional to x, and y = 9 when x = 8, what will y equal when x = 18?