Practice 5-2

Relations and Functions

Find the domain and range of each relation.

1. {(-3, -7), (-1, -3), (0, -1), (2, 3), (4, 7)}

2.
$$\{(-5, -4), (-4, 2), (0, 2), (1, 3), (2, 4)\}$$

Determine whether each of the following relations is a function.

3.
$$\left\{ (-4, -3), (-2, -2), (0, -1), \left(1, -\frac{1}{2}\right) \right\}$$





Evaluate each function rule for x = 3.

9. f(x) = 2x - 15**11.** $g(x) = \frac{2}{3}x - 1$

13. h(x) = -0.1x + 2.1

Evaluate each function rule for $x = -\frac{1}{2}$.

15.
$$f(x) = 4x - 2$$
16. $f(x) = -\frac{1}{2}x + 1$
17. $g(x) = -|x| + 3$
18. $h(x) = x - \frac{1}{2}$

Find the range of each function for the given domain.

19.
$$f(x) = -3x + 1; \{-2, -1, 0\}$$
20. $f(x) = x^2 + x - 2; \{-2, 0, 1\}$ **21.** $h(x) = -x^2; \{-3, -1, 1\}$ **22.** $g(x) = -\frac{1}{2}|x| + 1; \{-2, -1, 1\}$

- 23. For a car traveling at a constant rate of 60 mi/h, the distance traveled is a function of the time traveled.
 - **a.** Express this relation as a function.
 - **b.** Find the range of the function when the domain is $\{1, 5, 10\}$.
 - c. What do the domain and range represent?



4. {(0,0), (1,1), (4,2), (1, -1)}



10.
$$f(x) = -x + 3$$

12. $h(x) = -\frac{1}{2}x - \frac{1}{2}$
14. $g(x) = -\frac{x}{6} + \frac{3}{2}$

2