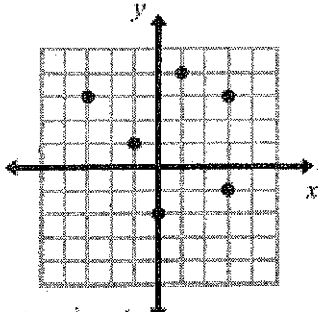


Name: _____ Date: _____

Decide whether the graph is a function or relation. If it is a function, give the domain and range.

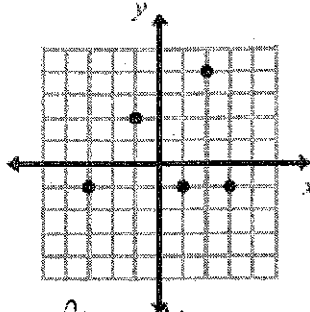
1.



relation

$D: \{-3, -1, 0, 1, 3\}$ $R: \{-2, 1, 1, 3, 4\}$

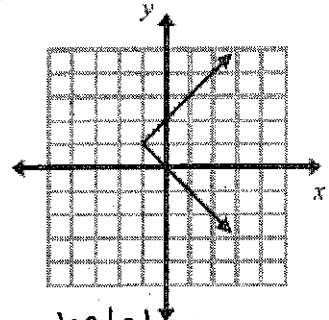
2.



function

$D: \{-3, -1, 1, 2, 3\}$
 $R: \{-1, 2, 4\}$

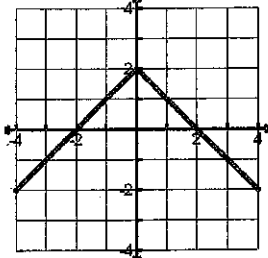
3.



relation

$D: -1 \leq x < \infty$
 $R: -\infty < y < \infty$

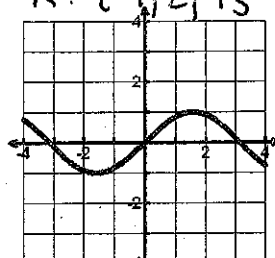
4.



function

$D: -4 \leq x \leq 4$ $R: -2 \leq y \leq 2$

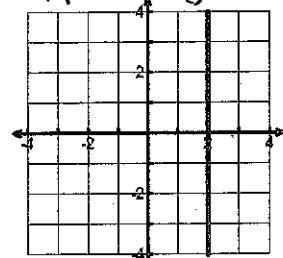
5.



function

$D: -4 \leq x \leq 4$ $R: -1 \leq y \leq 1$

6.

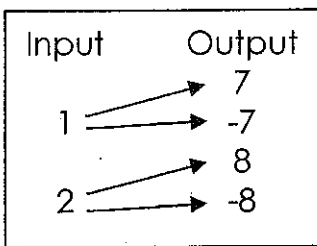


relation

$D: \{2\}$ $R: -\infty < y < \infty$

Decide whether the relation is a function. If it is a function, give the domain and the range.

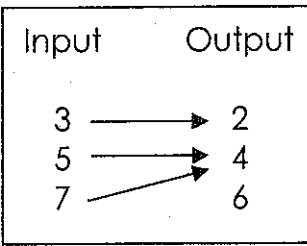
7.



not a function

$D: \{1, 2\}$ $R: \{-8, -7, 7, 8\}$

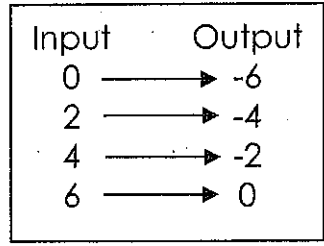
8.



function

$D: \{3, 5, 7\}$ $R: \{2, 4\}$

9.



function

$D: \{0, 2, 4, 6\}$ $R: \{-6, -4, -2, 0\}$

Evaluate the function when $x = 3$, $x = 0$, and $x = -2$. (3 answers for each problem)

10. $f(x) = 2x - 5$

$f(3) = 2(3) - 5 = 1$

$f(0) = 2(0) - 5 = -5$

$f(-2) = 2(-2) - 5 = -9$

11. $h(x) = 6x + 2$

$h(3) = 6(3) + 2 = 20$

$h(0) = 6(0) + 2 = 2$

$h(-2) = 6(-2) + 2 = -10$

12. $g(x) = 2.4x$

$g(3) = 2.4(3) = 7.2$

$g(0) = 2.4(0) = 0$

$g(-2) = 2.4(-2) = -4.8$

Evaluate the function when $x = 3$, $x = 0$, and $x = -2$. (3 answers for each problem)

$$13. f(x) = 0.5x + 12$$

$$f(3) = 0.5(3) + 12 = 13.5$$

$$f(0) = 0.5(0) + 12 = 12$$

$$f(-2) = 0.5(-2) + 12 = 11$$

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

$$h(3) = \frac{2}{3}(3) - 1 = 1$$

$$h(0) = \frac{2}{3}(0) - 1 = -1$$

$$h(-2) = \frac{2}{3}(-2) - 1 = -\frac{7}{3}$$

$$15. f(x) = \frac{3}{5}x + 2$$

$$f(3) = \frac{3}{5}(3) + 2 = \frac{19}{5}$$

$$f(0) = \frac{3}{5}(0) + 2 = 2$$

$$f(-2) = \frac{3}{5}(-2) + 2 = \frac{4}{5}$$

If $f(x) = 2x - 3$, $g(x) = \sqrt{x + 5}$, and $h(x) = x^2 - 3x + 5$, find each of the following:

$$16. f(4) = 2(4) - 3$$

$$= 5$$

$$17. h(-3) = (-3)^2 - 3(-3) + 5$$

$$= 23$$

$$18. g(7) = \sqrt{7 + 5}$$

$$= \sqrt{12} = 2\sqrt{3}$$

Extension: $h(g(4)) =$

$$g(4) = \sqrt{4 + 5} = \sqrt{9} = 3$$

$$h(g(4)) = (3)^2 - 3(3) + 5 = \boxed{5}$$