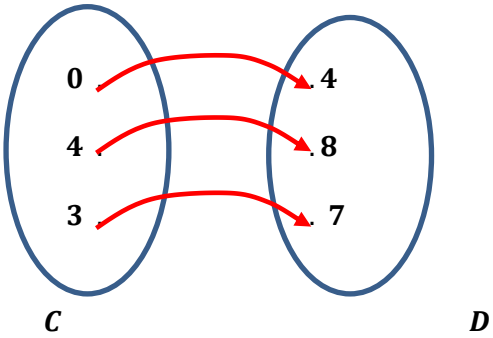
Name: _____ Period: _____ Date: _____

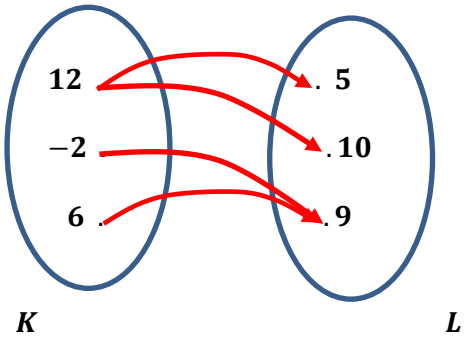
Functions Assignment

Determine each relation if it is a function.

1.



2.



3.

x	-4	-3	-1	0	1
y	-3	-1	1	4	2

4.

x	0	1	1	3	9
y	3	-7	6	4	2

5. $R = \{(-1, 3); (2, 4); (-1, -3); (-2, 4)\}$

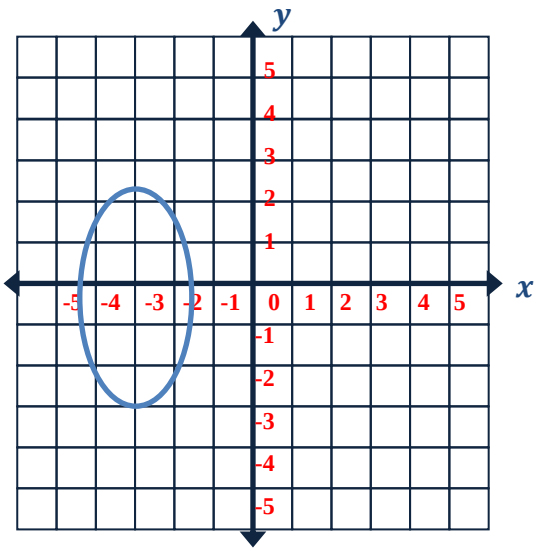
6. $R = \{(0, 3); (-3, 9); (3, 9); (1, 1)\}$

Name: _____ Period: _____ Date: _____

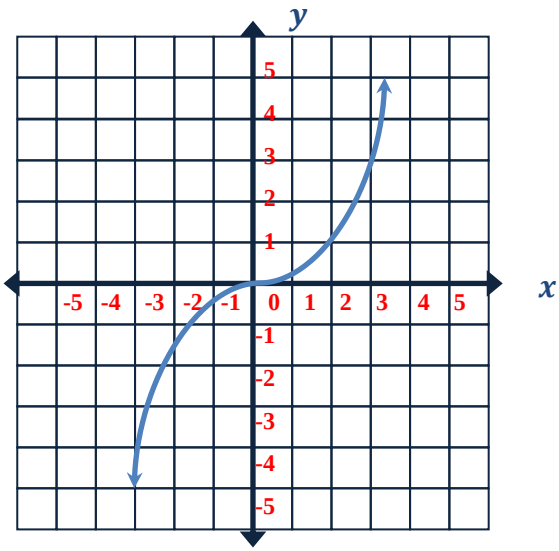
Functions Assignment

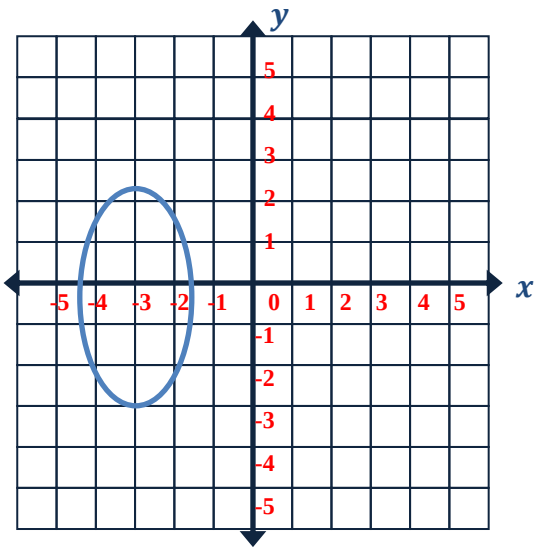
Use the Vertical Line Test to determine which of the following graphs describes y as a function of x.

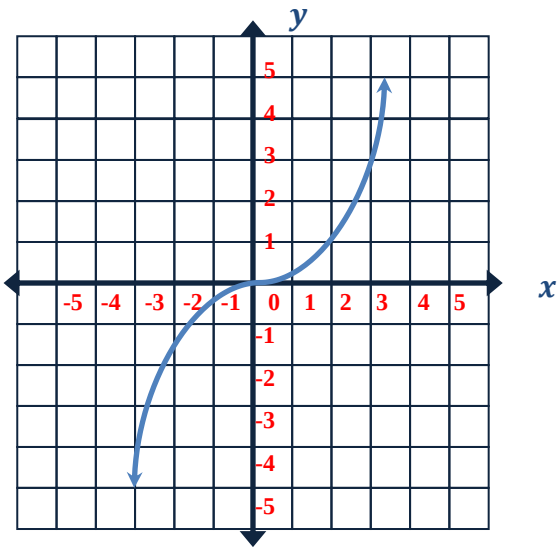
7.



8.







Evaluate each function.

9. $f(x) = 2x^2 - x + 1$
$f(2) = ?$

10. $f(x) = x^2 - 6$
$f(a + 1) = ?$

Name: _____ Period: _____ Date: _____

Functions Assignment

11. $g(t) = -2t^3 - 10t + 3$
$g(-3) = ?$

12. $h(y) = 3y - 4y^4$
$h(-1) = ?$

13. $f(x) = \dfrac{x^2 - 2x + 1}{x + 6}$
$f(-2) = ?$

14. $f(x) = \dfrac{2x + 1}{x + 6}$
$f(3a + 1) = ?$

15. $f(x) = 12 - \sqrt{x^2 - 9}$
$f(-3) = ?$

16. $g(t) = \sqrt{3t + 4t^2}$
$g(2m) = ?$

17. $f(x) = 10 + 4x$
$f(x) = 12$

18. $g(t) = 3t - 16$
$g(t) = 5$

State the domain of each function. Write in interval notation.

19. $f(x) = 2x^2 - x + 1$

20. $f(x) = \dfrac{2}{x - 5}$

Name: _____ Period: _____ Date: _____

Functions Assignment

21. $g(t) = \frac{1}{t} + \frac{2}{t-2}$

22. $h(x) = \sqrt{2x-4}$

23. $f(x) = \frac{\sqrt{x-5}}{x-6}$

24. $h(x) = \frac{3x^2}{\sqrt{3x-12}}$

Evaluate each function.

25.
$$f(x) = \begin{cases} -x+14, & if \quad x < -4 \\ 2x^2, & if \quad -4 < x < 0 \\ -x^3, & if \quad x > 0 \end{cases}$$
$f(-5) = ?$
$f(5) = ?$

26.
$$f(x) = \begin{cases} -10, & if \quad x < -5 \\ \sqrt{x-2}, & if \quad -5 < x < 10 \\ -\frac{x}{3}+3, & if \quad x > 10 \end{cases}$$
$f(6) = ?$
$f(12) = ?$