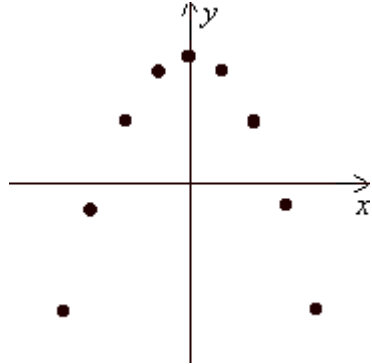


Name: _____ Date: _____

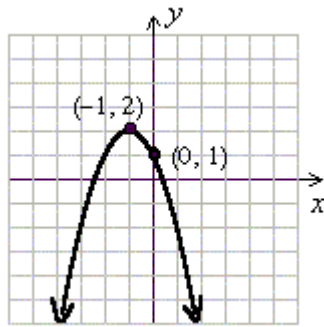
1. Use the vertical line test to determine whether or not the relation is a function.



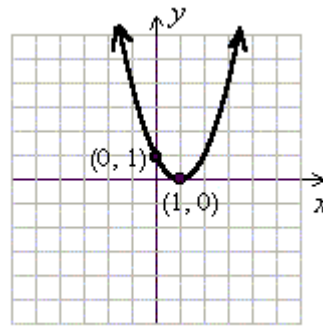
- A) No, the relation is not a function. B) Yes, the relation is a function.
2. Find the coordinates of the x -intercept.
 $2x + y = -6$
- A) $(-6, 0)$ B) $(0, -3)$ C) $(0, -6)$ D) $(-3, 0)$
3. Carla invested \$23,000, part at 16% and part at 15%. If the total interest at the end of the year is \$3,500, how much did she invest at 16% ?
- A) \$4,000 B) \$18,000 C) \$6,000 D) \$5,000

4. Graph the parabola $y = x^2 + 2x + 1$.

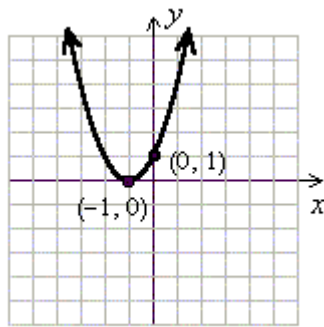
A)



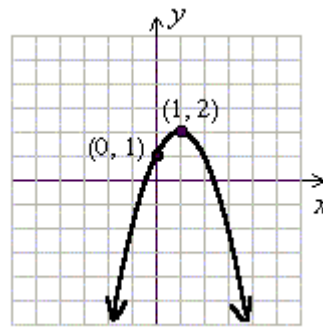
C)



B)



D)

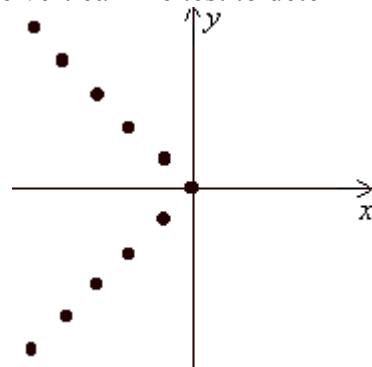


5. Determine whether the system is consistent, inconsistent, or dependent.

$$\begin{aligned} 2x + 2y &= 2 \\ 6x + 6y &= 6 \end{aligned}$$

A) Inconsistent B) Consistent C) Dependent

6. Use the vertical line test to determine whether or not the relation is a function.



A) No, the relation is not a function. B) Yes, the relation is a function.

7. Find the domain and range of the relation, and state whether or not the relation is a function.

$$\{(1, 4), (1, 5), (1, 6), (1, 7)\}$$

- A) Domain = $\{4, 5, 6, 7\}$, Range = $\{1\}$
The relation is a function.
- B) Domain = $\{4, 5, 6, 7\}$, Range = $\{1\}$
The relation is not a function.
- C) Domain = $\{1\}$, Range = $\{4, 5, 6, 7\}$
The relation is not a function.
- D) Domain = $\{1\}$, Range = $\{4, 5, 6, 7\}$
The relation is a function.

8. Find the domain and range of the relation, and state whether or not the relation is a function.

$$\{(1, 3), (2, 3), (3, 3), (4, 3)\}$$

- A) Domain = $\{3\}$, Range = $\{1, 2, 3, 4\}$
The relation is a function.
- B) Domain = $\{1, 2, 3, 4\}$, Range = $\{3\}$
The relation is not a function.
- C) Domain = $\{3\}$, Range = $\{1, 2, 3, 4\}$
The relation is not a function.
- D) Domain = $\{1, 2, 3, 4\}$, Range = $\{3\}$
The relation is a function.

9. Write the equation in the slope-intercept form.

$$4x - 10y = 11$$

- A) $y = -\frac{2}{5}x + \frac{11}{10}$ B) $y = -\frac{2}{5}x + 11$ C) $y = \frac{2}{5}x - 11$ D) $y = \frac{2}{5}x - \frac{11}{10}$

10. Determine whether or not the relation is a function.

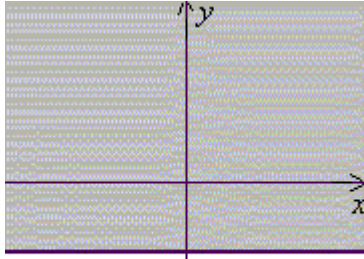
$$\{(-3, 6), (-2, 7), (-1, 8), (0, 9)\}$$

- A) No B) Yes

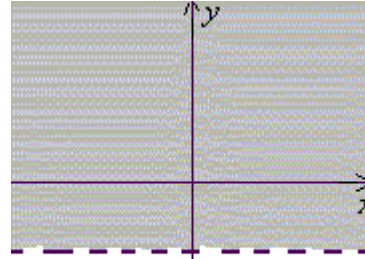
11. Graph the linear inequality.

$$y < -4$$

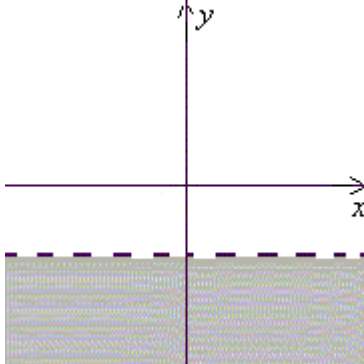
A)



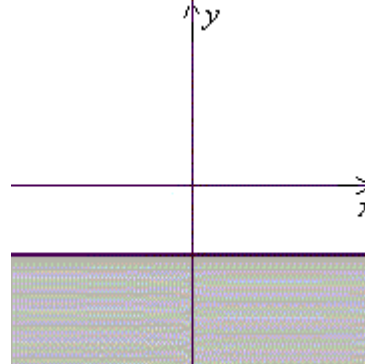
C)



B)

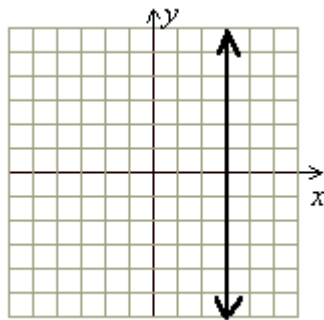


D)

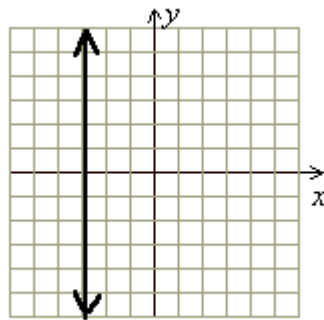


12. Graph $x = 3$.

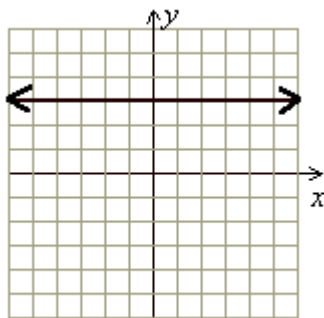
A)



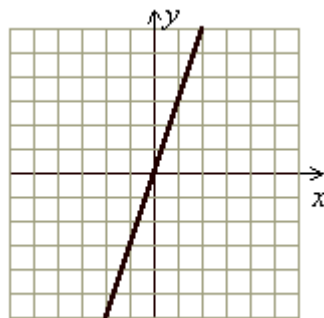
C)



B)



D)



13. Evaluate the function $f(x) = -x^2 + 5$ for $x = 4$.

A) -9 B) -10 C) -12 D) -11

14. The amount of revenue a company makes per day by selling x items is given by the function $f(x) = 14x - 0.2x^2$. How many items should be sold if the company wants to maximize their profit?

A) 30 items B) 35 items C) 70 items D) 40 items

15. Find the slope of the line passing through the points $(7, 0)$ and $(0, 10)$.

A) $-\frac{7}{10}$ B) $\frac{7}{10}$ C) $\frac{10}{7}$ D) $-\frac{10}{7}$

16. Find the domain and range of the relation, and state whether or not the relation is a function.

$$\{(7, 8), (7, 9), (7, 10), (7, 11)\}$$

17. Find the coordinates of the x -intercept and the y -intercept.
 $8x - y = 8$
18. Find the slope of the line passing through the points $(2.9, -2.2)$ and $(2.3, 3.6)$. Round your answer to the nearest tenth.
19. Graph $3x + 5y = -6$.
20. Graph the parabola $y = -x^2 + 4x - 4$.
21. Plot $(-4, 0)$ on the Cartesian plane.
22. Find the domain and range of the relation, and state whether or not the relation is a function.
 $\{(4, 8), (5, 9), (6, 10), (7, 11)\}$

23. Graph $y = \left(\frac{1}{2}\right)^{x-1}$.

24. Using the formula $A = P\left(1 + \frac{r}{n}\right)^{nt}$, find the worth of a \$900 bond after 2 years if the bond collects interest at a rate of 9%, calculated yearly.

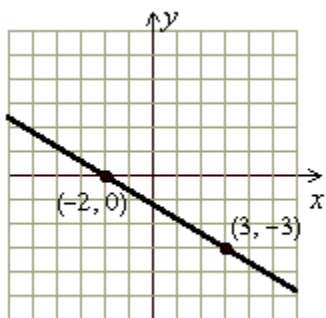
25. Solve the system by graphing.

$$x - 2y = 8$$

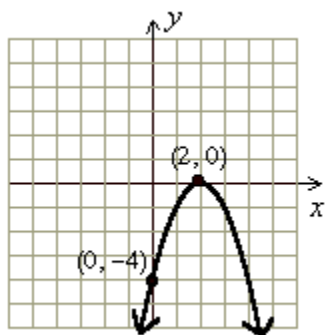
$$x + y = -1$$

Answer Key

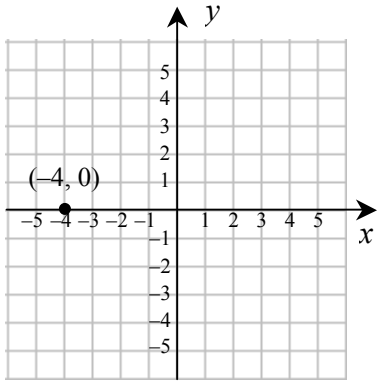
1. B
2. D
3. D
4. B
5. C
6. A
7. C
8. D
9. D
10. B
11. B
12. A
13. D
14. B
15. D
16. Domain = $\{7\}$
Range = $\{8, 9, 10, 11\}$
The relation is not a function.
17. x-int: $(1, 0)$; y-int: $(0, -8)$
18. -9.7
- 19.



20.

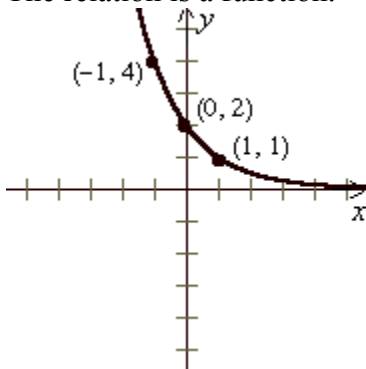


21.



22. Domain = $\{4, 5, 6, 7\}$
 Range = $\{8, 9, 10, 11\}$
 The relation is a function.

23.



24. \$1,076.77

25. $\{(2, -3)\}$

