

Name: _____ Date: _____

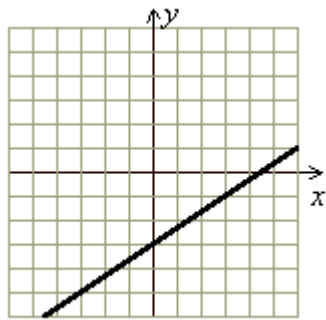
1. Find the vertex of the parabola.

$$y = -2x^2 + 12x - 13$$

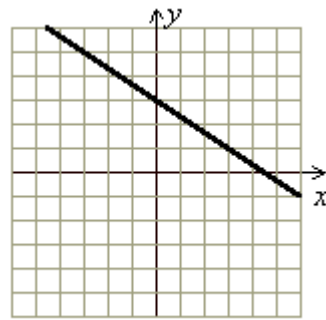
- A) (5, -3) B) (-3, 5) C) (3, 5) D) (5, 3)

2. Graph
- $3x + 2y = 6$
- .

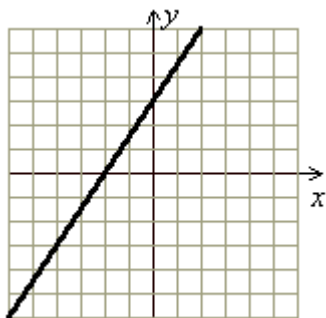
A)



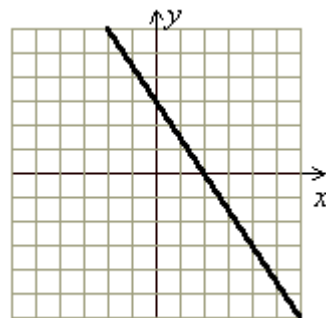
C)



B)



D)

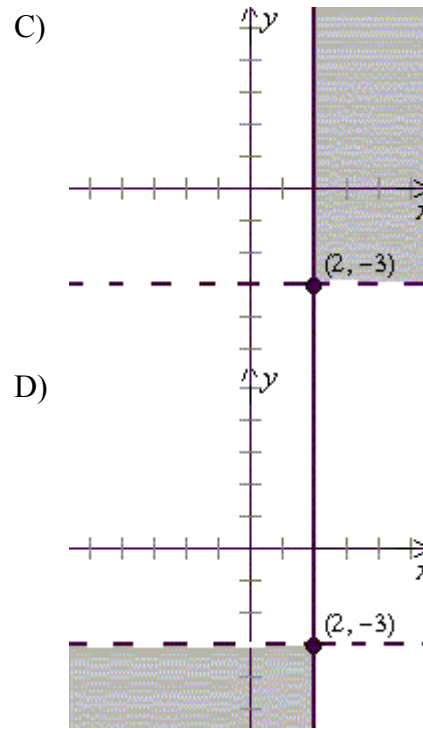
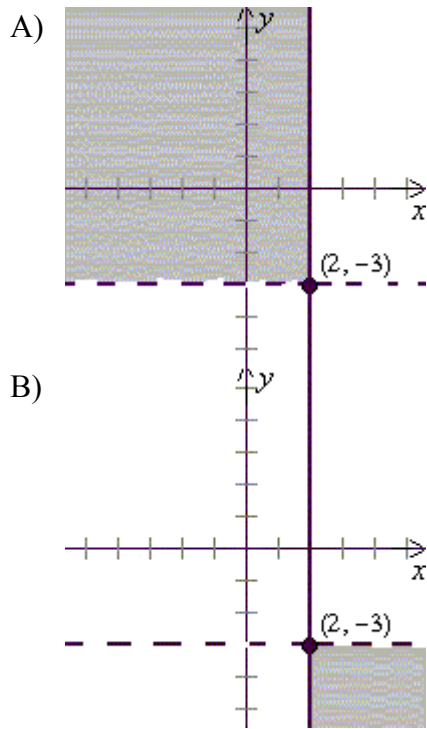


3. The amount of revenue a company makes per day by selling
- x
- items is given by the function
- $f(x) = 14x - 0.2x^2$
- . How many items should be sold if the company wants to maximize their profit?

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

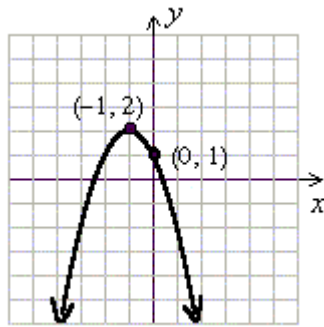
4. Find the solution set for the system of linear inequalities.

$$\begin{aligned} x &\leq 2 \\ y &< -3 \end{aligned}$$

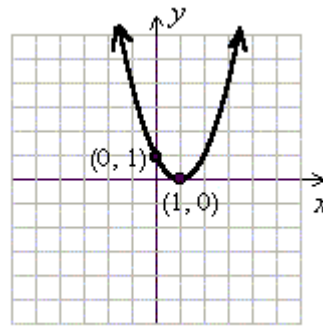


5. Graph the parabola $y = x^2 + 2x + 1$.

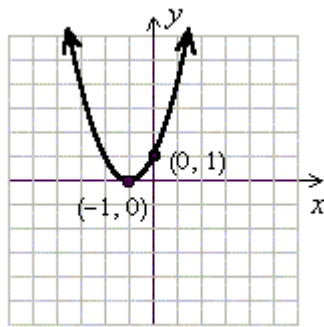
A)



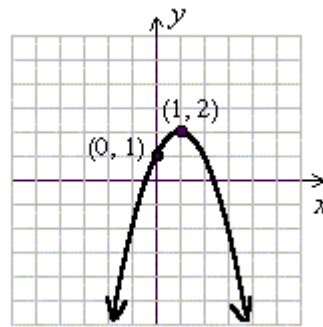
C)



B)



D)



6. Find the slope of the line passing through the points (10, 0) and (0, 3).

- A) $-\frac{10}{3}$ B) $\frac{10}{3}$ C) $\frac{3}{10}$ D) $-\frac{3}{10}$

7. Janet invested \$26,000, part at 6% and part at 3%. If the total interest at the end of the year is \$1,080, how much did she invest at 6%?

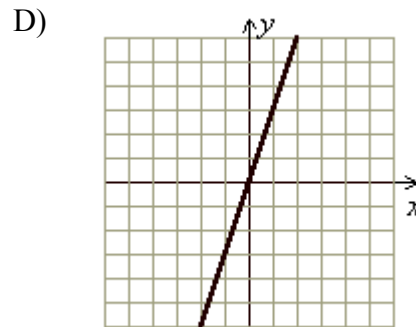
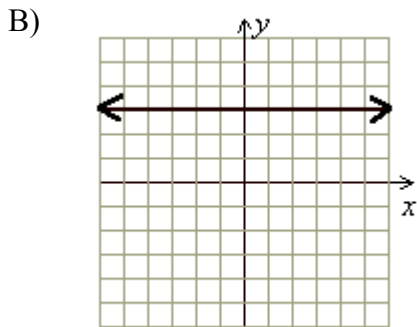
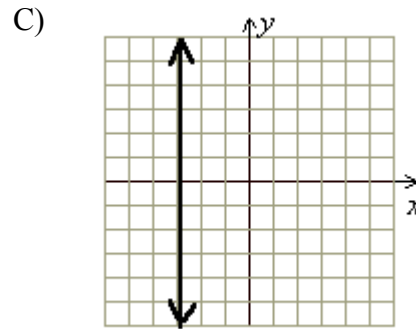
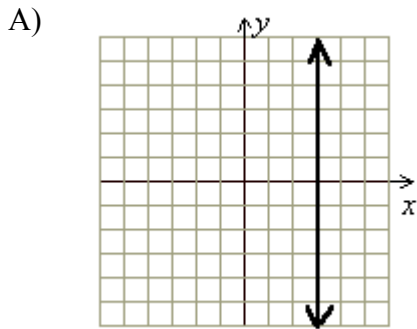
- A) \$11,000 B) \$10,000 C) \$9,000 D) \$16,000

8. Find the coordinates of the x -intercept.

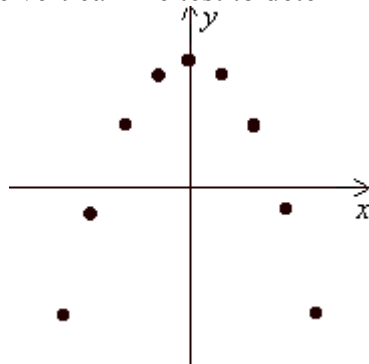
$$-x + 5y = -15$$

- A) (-3, 0) B) (0, 15) C) (0, -3) D) (15, 0)

9. Graph $x = 3$.



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



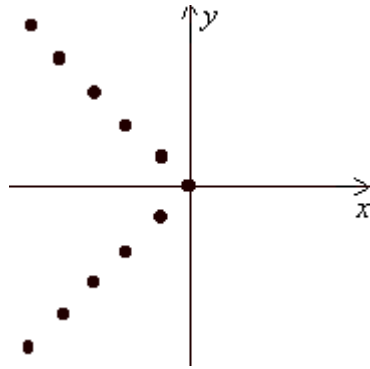
A) No, the relation is not a function. B) Yes, the relation is a function.

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

$$4x - 10y = 11$$

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

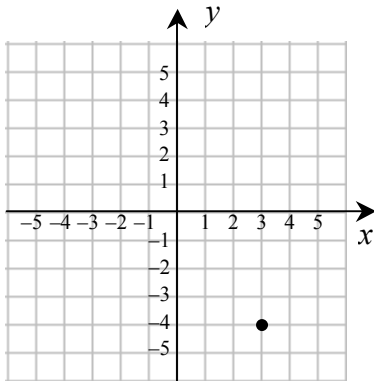
12. Use the vertical line test to determine whether or not the relation is a function.



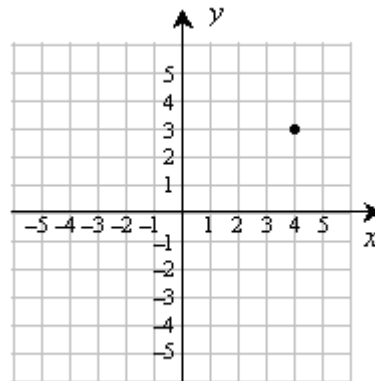
- A) No, the relation is not a function. B) Yes, the relation is a function.

13. Plot the point $(-4, 3)$ on the Cartesian plane.

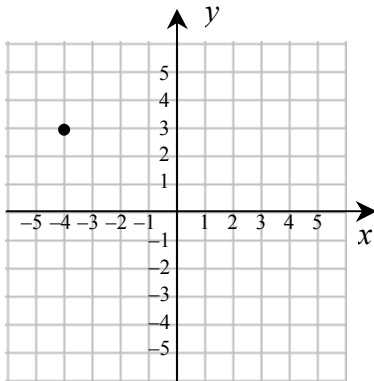
A)



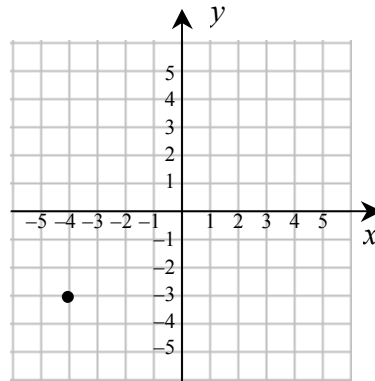
C)



B)



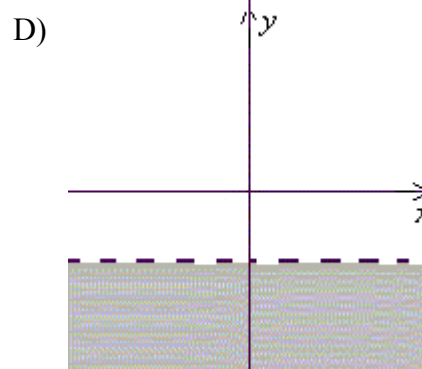
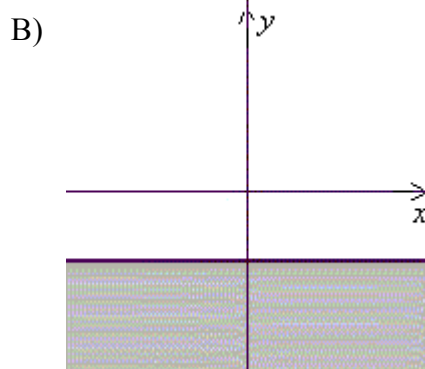
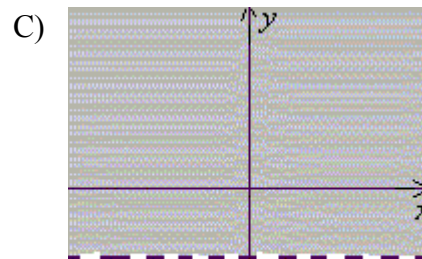
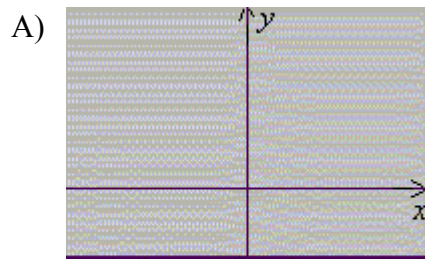
D)



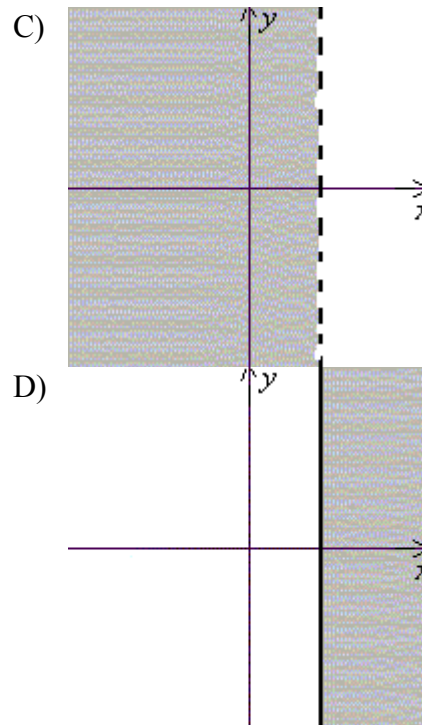
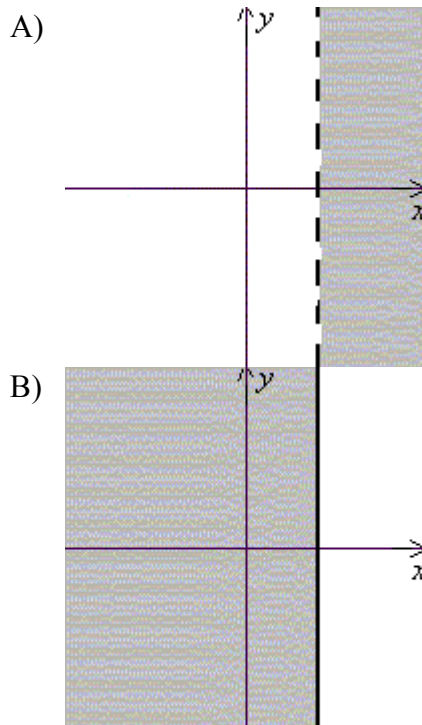
14. Determine whether or not the relation is a function.
 $\{(1, 9), (2, 10), (3, 11), (4, 12)\}$

A) No B) Yes

15. Graph the linear inequality.
 $y \geq -3$



16. Graph the linear inequality.
 $x > 4$



17. The owner of a deli wants to purchase at least 15 more pounds of oven-baked turkey than of roast beef. Write the constraint using t for pounds of turkey and r for pounds of roast beef.

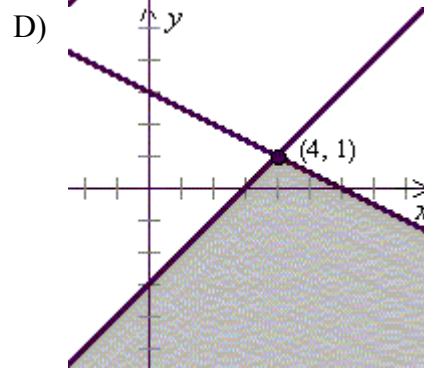
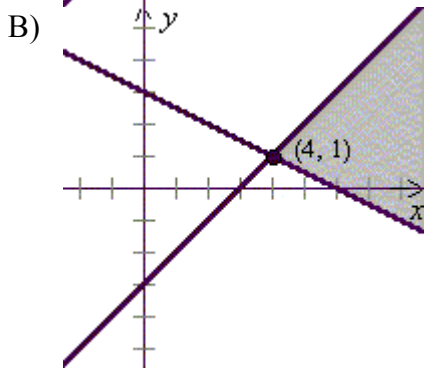
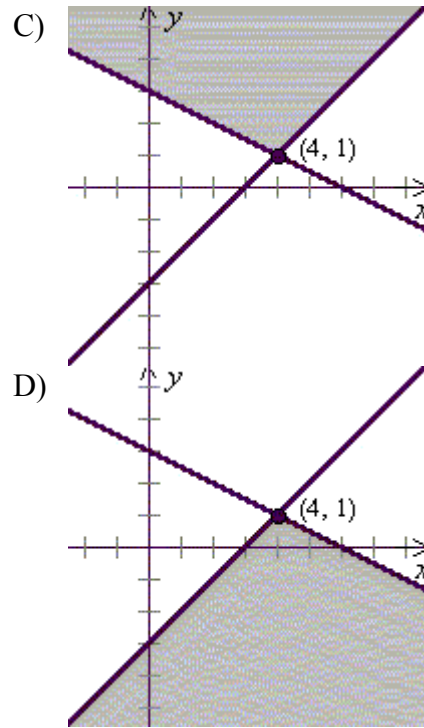
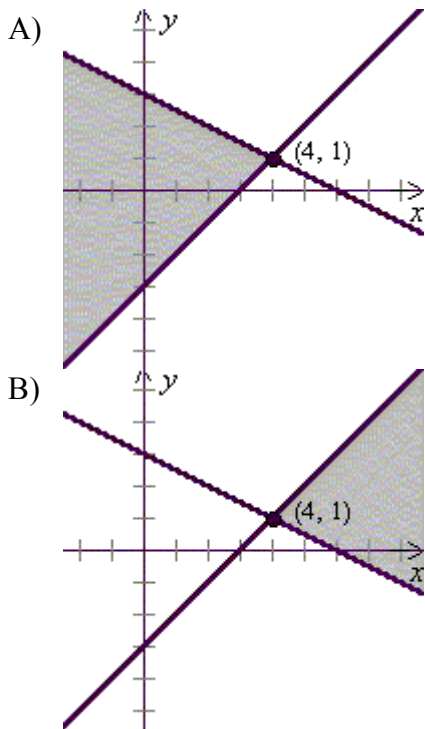
A) $t \geq r + 15$ B) $t > r + 15$ C) $t \geq r - 15$ D) $t \leq r + 15$

18. The difference between the ages of two friends is 37 years. The sum of their ages is 55 years. Find the age of the older friend.

A) 46 B) 9 C) 47 D) 45

19. Find the solution set for the system of linear inequalities.

$$\begin{aligned}x - y &\leq 3 \\x + 2y &\leq 6\end{aligned}$$



20. Find the y-intercept.

$$x + 4y = -4$$

- A) (0, -1) B) (-1, 0) C) (0, -4) D) (-4, 0)

21. Adult tickets for a play cost \$19 and child tickets cost \$17. If there were 36 people at a performance and the theatre collected \$646 from ticket sales, how many children attended the play?

- A) 17 children B) 20 children C) 18 children D) 19 children

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

$$\{(7, 2), (8, 2), (9, 2), (10, 2)\}$$

- A) Domain = $\{2\}$, Range = $\{7, 8, 9, 10\}$
The relation is not a function.
- B) Domain = $\{2\}$, Range = $\{7, 8, 9, 10\}$
The relation is a function.
- C) Domain = $\{7, 8, 9, 10\}$, Range = $\{2\}$
The relation is not a function.
- D) Domain = $\{7, 8, 9, 10\}$, Range = $\{2\}$
The relation is a function.

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

$$3x + 2y = 15$$

$$6x + 4y = 30$$

- A) Consistent B) Dependent C) Inconsistent

24. Find the slope of the line passing through the points $(0, -4)$ and $(-6, 7)$.

A) $\frac{11}{6}$ B) $-\frac{11}{6}$ C) $-\frac{6}{11}$ D) $\frac{6}{11}$

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

$$\{(3, 9), (3, 10), (3, 11), (3, 12)\}$$

- A) Domain = $\{9, 10, 11, 12\}$, Range = $\{3\}$
The relation is a function.
- B) Domain = $\{9, 10, 11, 12\}$, Range = $\{3\}$
The relation is not a function.
- C) Domain = $\{3\}$, Range = $\{9, 10, 11, 12\}$
The relation is not a function.
- D) Domain = $\{3\}$, Range = $\{9, 10, 11, 12\}$
The relation is a function.

Answer Key

1. C
2. D
3. B
4. D
5. B
6. D
7. B
8. D
9. A
10. B
11. B
12. A
13. B
14. B
15. A
16. A
17. A
18. A
19. A
20. A
21. D
22. D
23. B
24. B
25. C