

## Radical Functions review

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation. Remember to check for extraneous solutions.**

1)  $-5 = \sqrt{19 - 5m} - m$

A)  $\{2, -9\}$

B)  $\{-6\}$

C) No solution.

D)  $\{2, -6\}$

2)  $\sqrt{x - 4} = \sqrt{20 - 2x}$

A)  $\{-8, -5\}$

B)  $\{-8, 8\}$

C)  $\{4, -5\}$

D)  $\{8\}$

3)  $x = 3 + \sqrt{4x - 12}$

A)  $\{-5\}$

B)  $\{-5, 7\}$

C)  $\{7, 3\}$

D)  $\{3, -7\}$

4)  $-2 - \sqrt{-3 - 2x} = \sqrt{-5 - 5x}$

A)  $\{2, -2\}$

B) No solution.

C)  $\{-9, -2\}$

D)  $\{9, -2\}$

5)  $-12 = -3\sqrt{-4 - 2m}$

A)  $\{-10, 9\}$

B)  $\{9\}$

C)  $\{6, -5\}$

D)  $\{-10\}$

6)  $-2 = -x + \sqrt{-6x + 3}$

A) No solution.

B)  $\{-1\}$

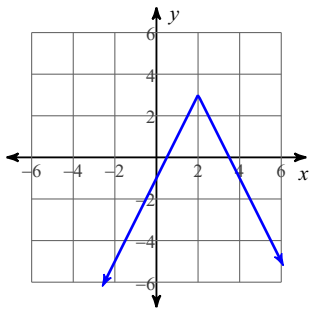
C)  $\{7, -1\}$

D)  $\{-9, -1\}$

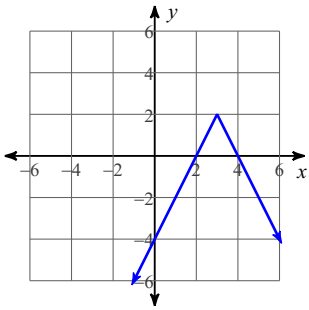
Graph each equation.

7)  $y = -2|x + 3| + 2$

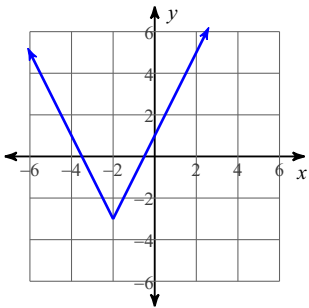
A)



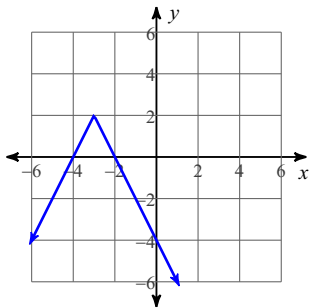
B)



C)

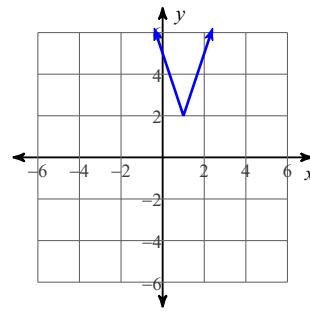


D)

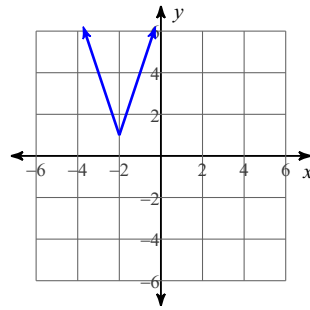


8)  $y = 3|x + 1| - 2$

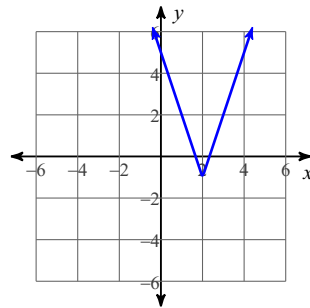
A)



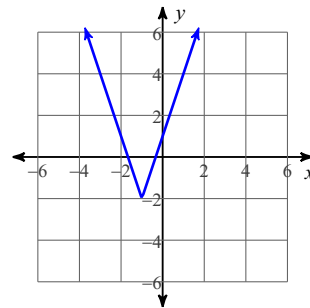
B)



C)

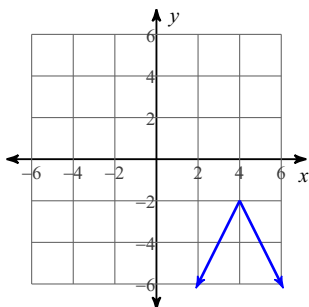


D)

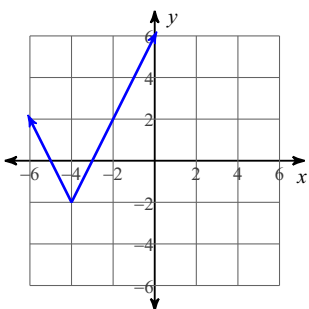


9)  $y = 2|x - 2| + 4$

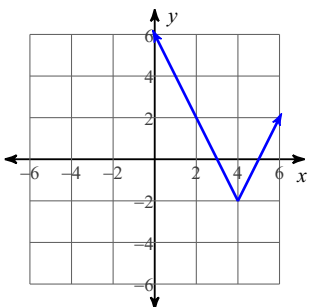
A)



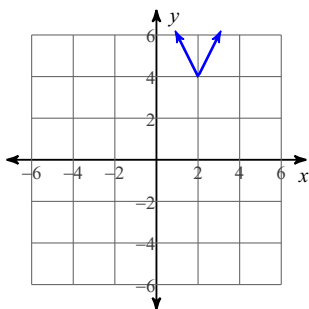
B)



C)

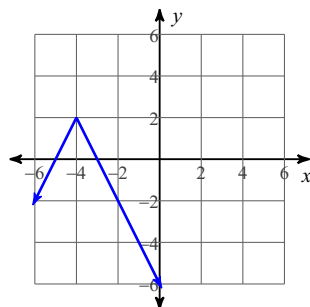


D)

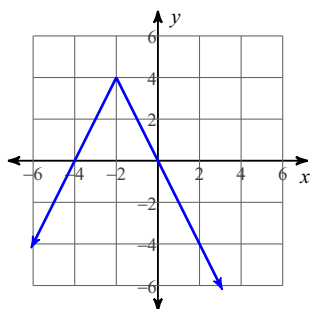


10)  $y = -2|x + 4| + 2$

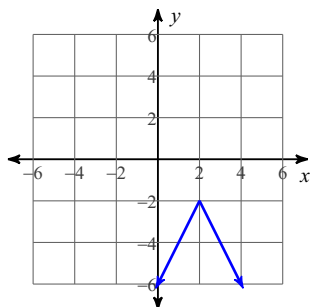
A)



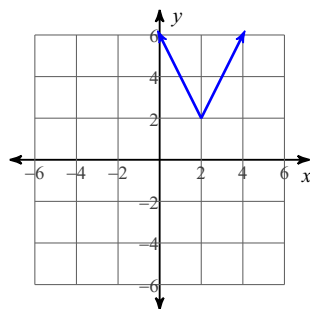
B)



C)



D)



**Identify the domain and range of each.**

11)  $y = 2\sqrt[3]{x-1}$

- A) Domain:  $x \geq -2$   
Range:  $y \leq -1$
- B) Domain: { All real numbers. }  
Range: { All real numbers. }
- C) Domain:  $x \leq 0$   
Range:  $y \geq -2$
- D) Domain:  $x \geq 1$   
Range:  $y \geq 0$

12)  $y = 3\sqrt{x}$

- A) Domain:  $x \geq 0$   
Range:  $y \geq 0$
- B) Domain:  $x \leq 3$   
Range:  $y \geq 0$
- C) Domain:  $x \geq 0$   
Range:  $y \leq 0$
- D) Domain: { All real numbers. }  
Range: { All real numbers. }

13)  $y = 4\sqrt[3]{x}$

- A) Domain: { All real numbers. }  
Range: { All real numbers. }
- B) Domain:  $x \leq 0$   
Range:  $y \geq 0$
- C) Domain:  $x \geq -4$   
Range:  $y \leq 0$
- D) Domain:  $x \geq 0$   
Range:  $y \geq 0$

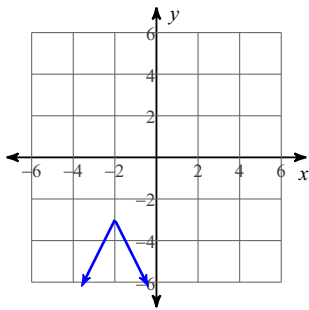
14)  $y = 2\sqrt{x-2} - 3$

- A) Domain:  $x \geq 2$   
Range:  $y \leq -3$
- B) Domain:  $x \geq 2$   
Range:  $y \geq 3$
- C) Domain:  $x \geq 3$   
Range:  $y \geq -2$
- D) Domain:  $x \geq 2$   
Range:  $y \geq -3$

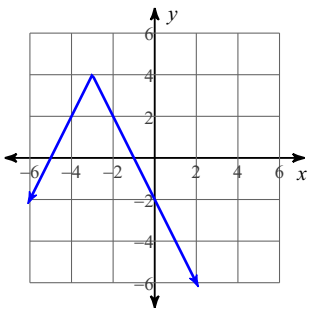
Graph each equation.

15)  $y = -2|x - 4| - 3$

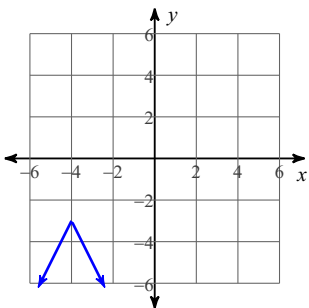
A)



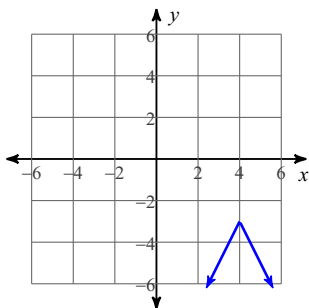
B)



C)

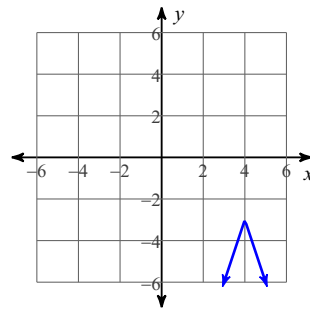


D)

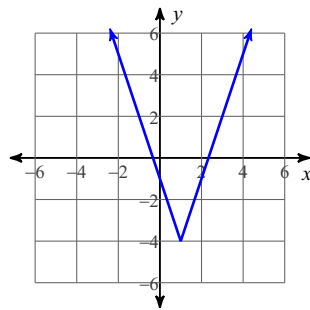


16)  $y = -3|x + 4| + 3$

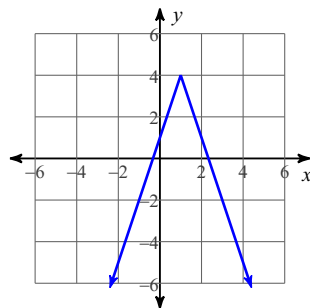
A)



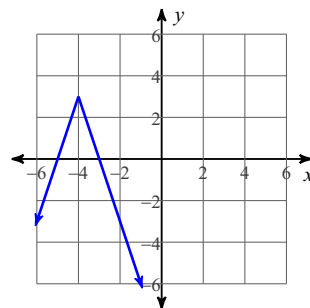
B)



C)

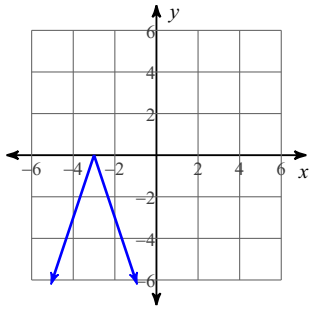


D)

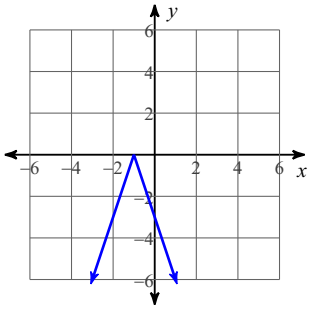


17)  $y = -3|x + 3|$

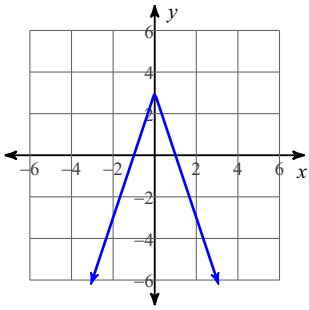
A)



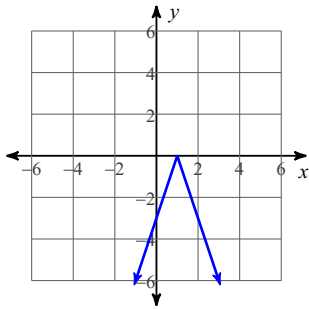
B)



C)



D)



## Radical Functions review

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation. Remember to check for extraneous solutions.**

1)  $-5 = \sqrt{19 - 5m} - m$

- A)  $\{2, -9\}$       B)  $\{-6\}$   
 \*C) No solution.      D)  $\{2, -6\}$

2)  $\sqrt{x - 4} = \sqrt{20 - 2x}$

- A)  $\{-8, -5\}$       B)  $\{-8, 8\}$   
 C)  $\{4, -5\}$       \*D)  $\{8\}$

3)  $x = 3 + \sqrt{4x - 12}$

- A)  $\{-5\}$       B)  $\{-5, 7\}$   
 \*C)  $\{7, 3\}$       D)  $\{3, -7\}$

4)  $-2 - \sqrt{-3 - 2x} = \sqrt{-5 - 5x}$

- A)  $\{2, -2\}$       \*B) No solution.  
 C)  $\{-9, -2\}$       D)  $\{9, -2\}$

5)  $-12 = -3\sqrt{-4 - 2m}$

- A)  $\{-10, 9\}$       B)  $\{9\}$   
 C)  $\{6, -5\}$       \*D)  $\{-10\}$

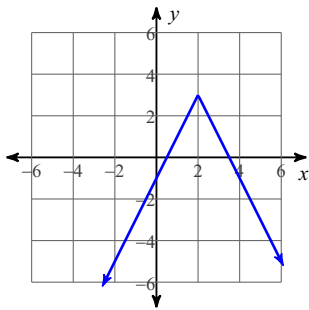
6)  $-2 = -x + \sqrt{-6x + 3}$

- \*A) No solution.      B)  $\{-1\}$   
 C)  $\{7, -1\}$       D)  $\{-9, -1\}$

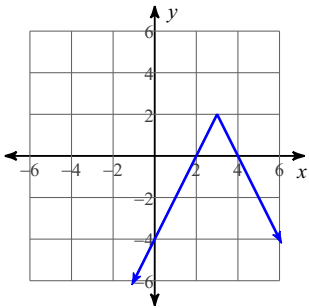
Graph each equation.

7)  $y = -2|x + 3| + 2$

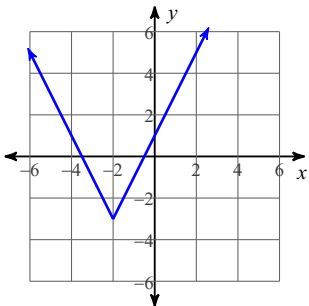
A)



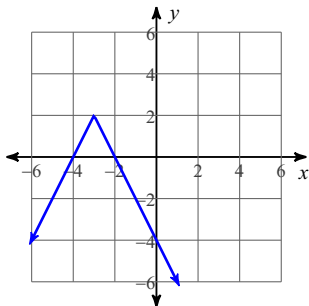
B)



C)

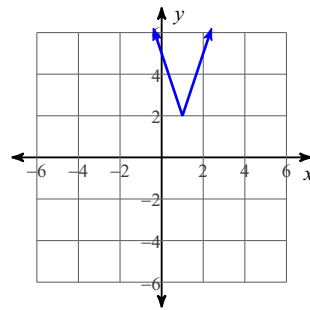


\*D)

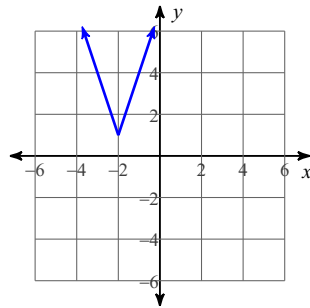


8)  $y = 3|x + 1| - 2$

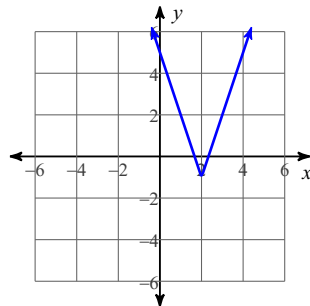
A)



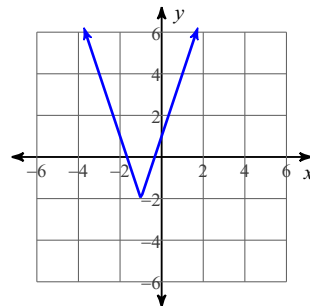
B)



C)



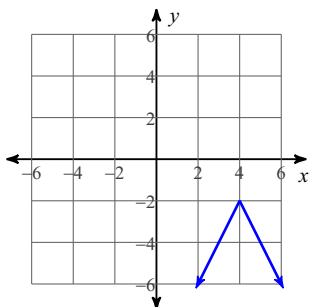
\*D)



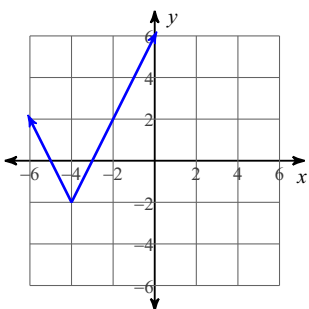


9)  $y = 2|x - 2| + 4$

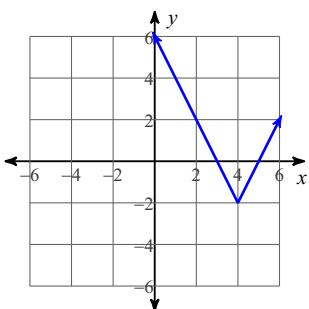
A)



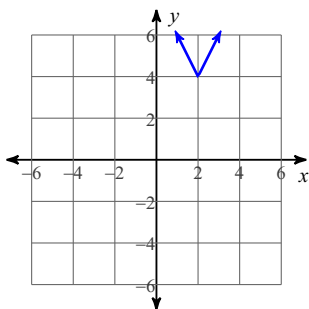
B)



C)

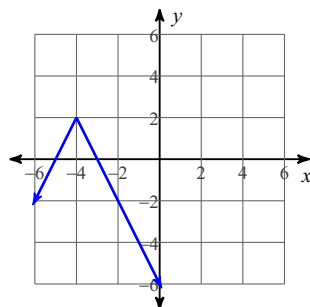


\*D)

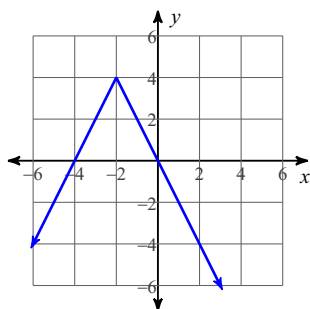


10)  $y = -2|x + 4| + 2$

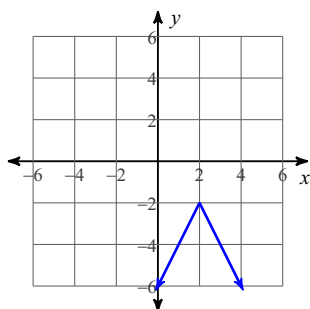
\*A)



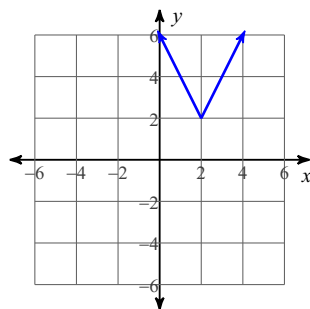
B)



C)



D)



**Identify the domain and range of each.**

11)  $y = 2\sqrt[3]{x-1}$

- A) Domain:  $x \geq -2$   
Range:  $y \leq -1$
- \*B) Domain: { All real numbers. }  
Range: { All real numbers. }
- C) Domain:  $x \leq 0$   
Range:  $y \geq -2$
- D) Domain:  $x \geq 1$   
Range:  $y \geq 0$

12)  $y = 3\sqrt{x}$

- \*A) Domain:  $x \geq 0$   
Range:  $y \geq 0$
- B) Domain:  $x \leq 3$   
Range:  $y \geq 0$
- C) Domain:  $x \geq 0$   
Range:  $y \leq 0$
- D) Domain: { All real numbers. }  
Range: { All real numbers. }

13)  $y = 4\sqrt[3]{x}$

- \*A) Domain: { All real numbers. }  
Range: { All real numbers. }
- B) Domain:  $x \leq 0$   
Range:  $y \geq 0$
- C) Domain:  $x \geq -4$   
Range:  $y \leq 0$
- D) Domain:  $x \geq 0$   
Range:  $y \geq 0$

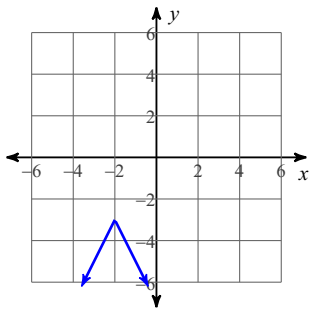
14)  $y = 2\sqrt{x-2} - 3$

- A) Domain:  $x \geq 2$   
Range:  $y \leq -3$
- B) Domain:  $x \geq 2$   
Range:  $y \geq 3$
- C) Domain:  $x \geq 3$   
Range:  $y \geq -2$
- \*D) Domain:  $x \geq 2$   
Range:  $y \geq -3$

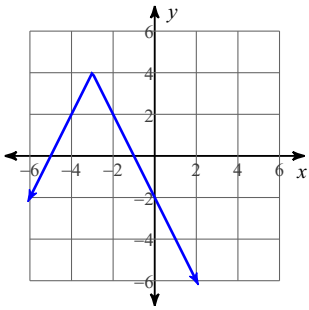
Graph each equation.

15)  $y = -2|x - 4| - 3$

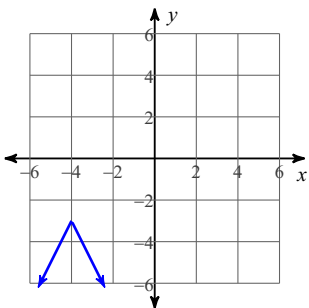
A)



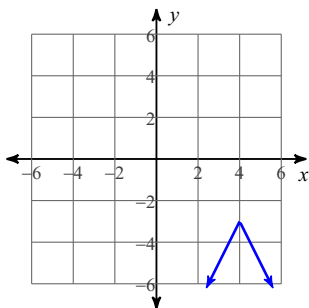
B)



C)

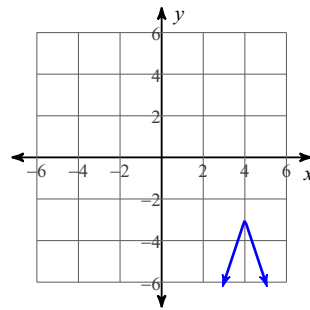


\*D)

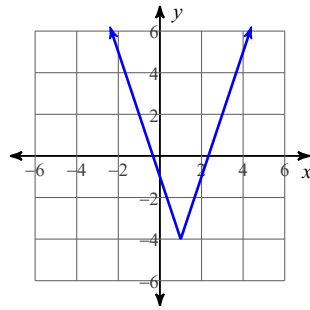


16)  $y = -3|x + 4| + 3$

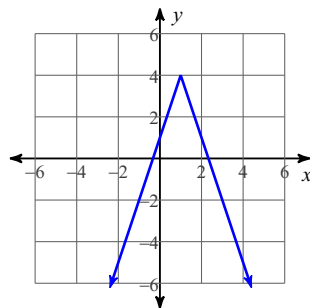
A)



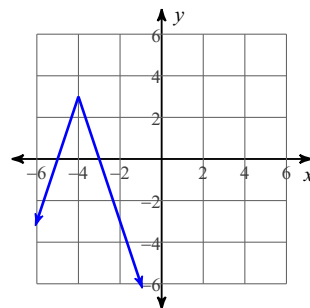
B)



C)

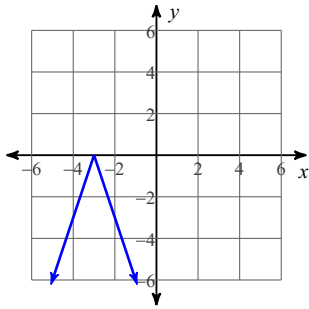


\*D)

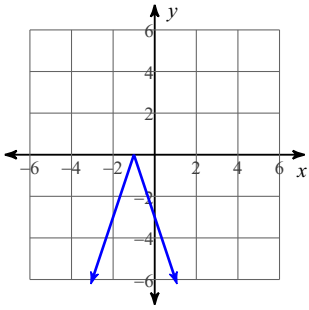


17)  $y = -3|x + 3|$

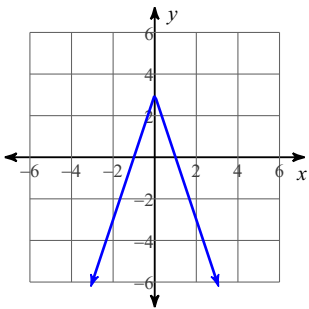
\*A)



B)



C)



D)

