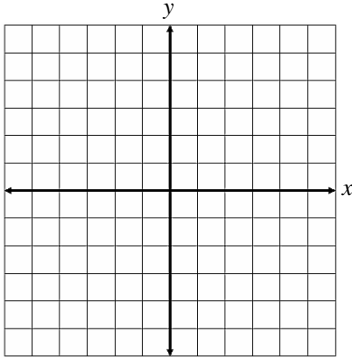


Show work for credit.

1) Graph the function, $y = -2|x + 1| + 3$.



Use **set builder** and **interval notation** for the following:

Domain: _____

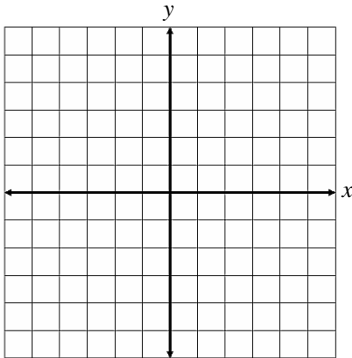
Range: _____

Increasing: _____

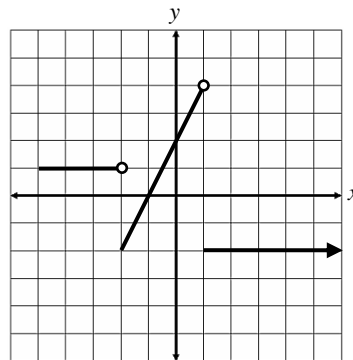
Decreasing: _____

2) Graph the piecewise-defined function,

$$f(x) = \begin{cases} -x + 1, & -4 < x \leq -1 \\ 3, & -1 < x < 2 \\ 2x - 3, & x \geq 2 \end{cases}$$

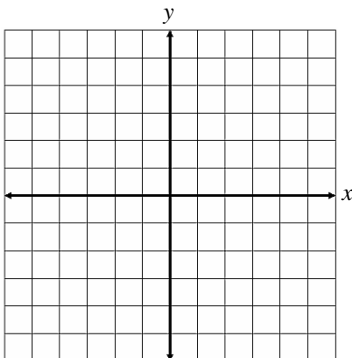


3) What rule defines the following function?



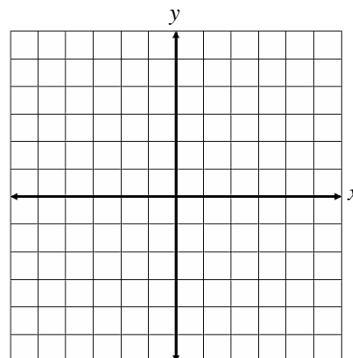
$$f(x) = \left\{ \right.$$

4) Use a graph to solve the equation, $-|x + 1| = -4$.



Answer: _____

5) Use a graph to solve the inequality, $x^2 - 1 \geq 0$.

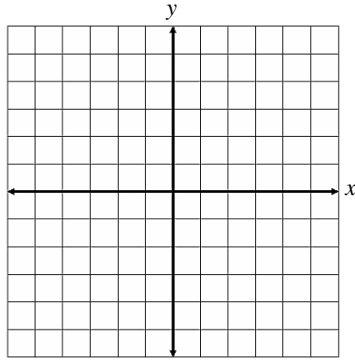


Use **set builder** and **interval notation**.

Answer: _____

6) Solve the system of equations by graphing.

$$\begin{cases} y = 2x - 3 \\ y = -\frac{1}{2}x + 2 \end{cases}$$



Answer: _____

7) Solve the system algebraically.

$$\begin{cases} x - 2y = 1 \\ -3x + y = -8 \end{cases}$$

Answer: _____

8) Solve the system algebraically.

$$\begin{cases} 3x - y = 2 \\ -6x + 2y = -4 \end{cases}$$

Answer: _____

9) Solve the system algebraically.

$$\begin{cases} -x - y = 3 \\ x + y = -4 \end{cases}$$

Answer: _____

10) What is the augmented matrix described by the system of equations?

$$\begin{cases} x - 2y + 3z = -4 \\ 5y - 6z = -7 \\ -8x + 9y = 10 \end{cases}$$

Answer: $\left[\begin{array}{ccc|c} & & & \end{array} \right]$

11) What is the system of equations described by the augmented matrix?

$$\left[\begin{array}{cc|c} -2 & 5 & -11 \\ 0 & -4 & 6 \end{array} \right]$$

Answer: $\left\{ \begin{array}{l} \\ \\ \end{array} \right.$