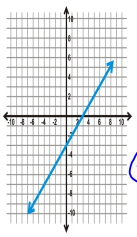
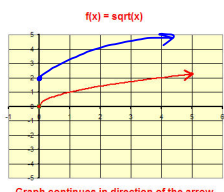


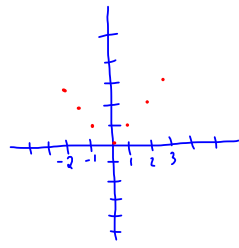
State the Domain of each graph.

1.   $(-\infty, \infty)$

2.   $[0, \infty)$

3.  $f(x) = \sqrt{x+2}$   
 $[0, \infty)$

9.3 Domain



Domain:  $\{-2, -1, 0, 1, 2, 3\}$

Range:  $\{0, 1, 2, 3\}$

$y = x^2 + 10$   
 $y = x^2 + 3x + 3$   
 $y = (x-2)^2 + 4$

Domain:  $(-\infty, \infty)$

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

Domain:  $(-\infty, \infty)$

$y = x^3$   
 $y = (x+2)^3 - 1$   
 $y = -x^3 + 2x^2 + x + 5$

Domain:  $(-\infty, \infty)$

$y = \sqrt{x}$  Domain:  $[0, \infty)$   
 $x \geq 0$   
 $y = \sqrt{x+5}$   $[-5, \infty)$   
 $x+5 \geq 0$   
 $x \geq -5$   
 $y = -\sqrt{x} - 3$   $[0, \infty)$   
 $y = \sqrt{2x+5}$   
 $2x+5 \geq 0$   
 $2x \geq -5$   
 $x \geq -\frac{5}{2}$   
 $[-\frac{5}{2}, \infty)$

Domain:

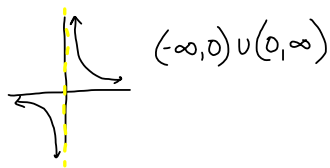
$$f(x) = \sqrt{3x-7} + 2$$

$$\begin{aligned} 3x-7 &\geq 0 & \left[\frac{7}{3}, \infty\right) \\ 3x &\geq 7 \\ x &\geq \frac{7}{3} \end{aligned}$$

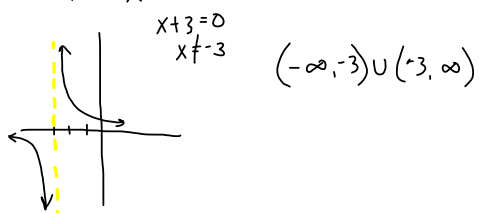
$$f(x) = \sqrt{12-x}$$

$$\begin{aligned} 12-x &\geq 0 & (-\infty, 12] \\ -x &\geq -12 \\ x &\leq 12 \end{aligned}$$

$$Y = \frac{1}{x} \quad x \neq 0$$



$$Y = \frac{1}{x+3}$$



$$f(x) = \frac{5}{2x+5}$$

$$\begin{aligned} 2x+5 &= 0 & \left(-\infty, -\frac{5}{2}\right) \cup \left(-\frac{5}{2}, \infty\right) \\ 2x &= -5 \\ x &\neq -\frac{5}{2} \end{aligned}$$