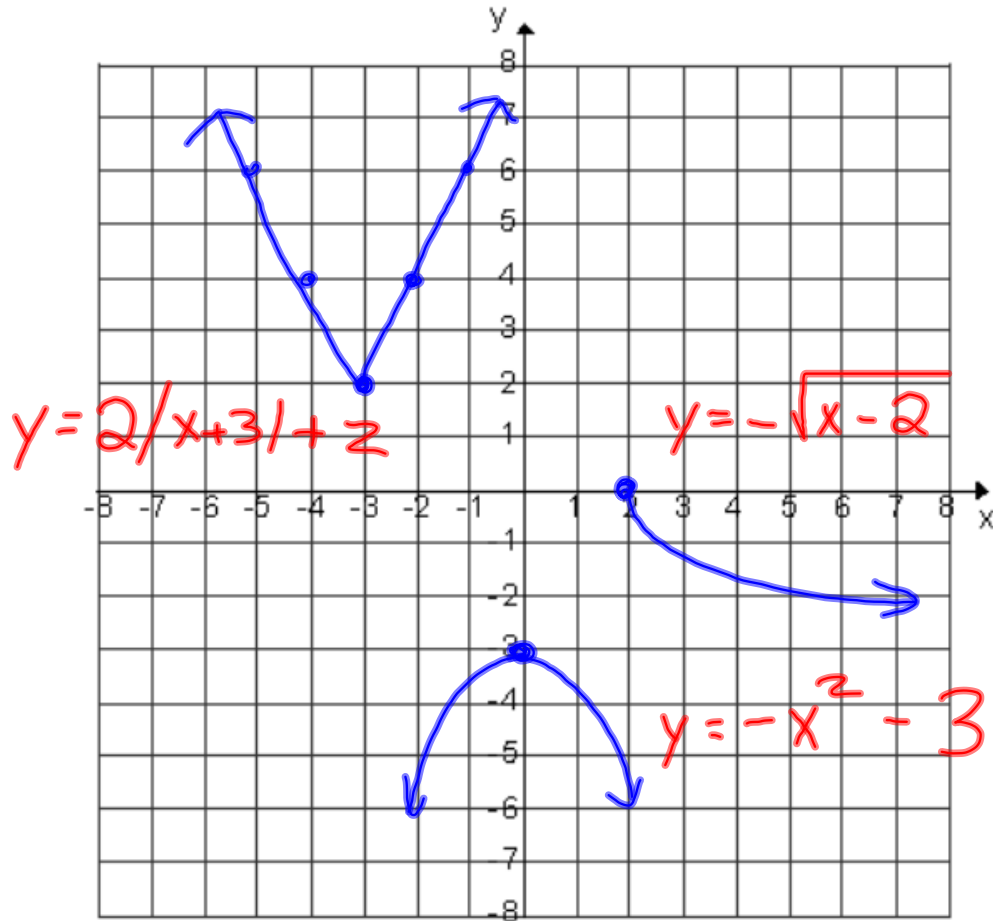


2-4-14
3rd Trig



$$\textcircled{2} \quad y = \frac{3x^2 - 1000}{x^2 + 5x + 4} \longrightarrow \begin{matrix} (x+4)(x+1) \\ x \neq -4 \quad x \neq -1 \end{matrix}$$

Horizontal: $y = 3$

Vertical: $x = -4$ $x = -1$

Slant: None

$$\textcircled{3} \quad y = \frac{x^2 + 6x + 1}{x + 2}$$

Horizontal: None

Vertical: $x = -2$

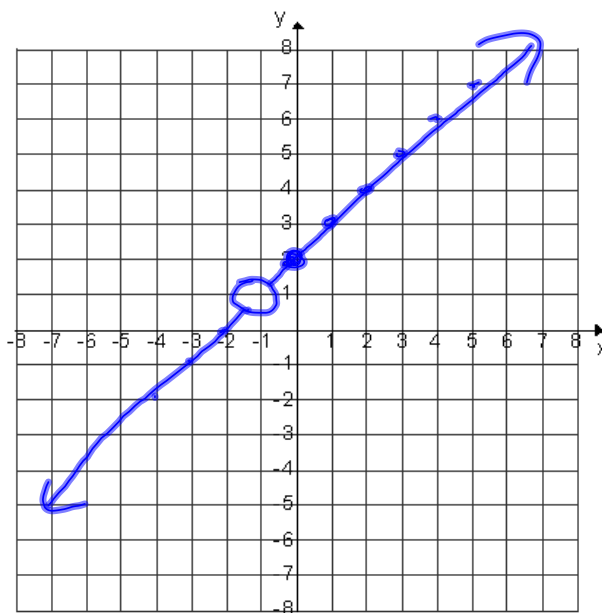
Slant: $y = x + 4$

$$\begin{array}{r}
 x + 4 \\
 \hline
 x + 2 \sqrt{x^2 + 6x + 1} \\
 \quad - x^2 + 2x \\
 \quad \hline
 \quad \quad 4x + 1 \\
 \quad \quad 4x + 8 \\
 \quad \quad \hline
 \quad \quad \quad -7
 \end{array}$$

Graph $y = \frac{x^2 + 3x + 2}{x + 1}$

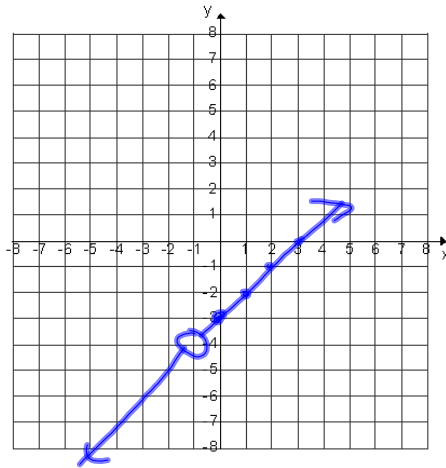
$$= \frac{(x + 2)\cancel{(x + 1)}}{\cancel{x + 1}}$$

$y = x + 2$ hole at $x = -1$



$$\textcircled{5} \quad y = \frac{\cancel{(x+1)}(x-3)}{\cancel{x+1}}$$

$$y = x - 3 \quad \text{hole at } x = -1$$



$$\textcircled{6} \quad \text{Solve for } x: \quad |2x-1| < 9$$

$$\begin{array}{l} 2x-1 < 9 \\ +1 \quad +1 \\ \hline 2x < 10 \\ x < 5 \end{array} \quad \text{AND} \quad \begin{array}{l} \cancel{-(2x-1)} < \frac{9}{-1} \\ \hline 2x-1 > -9 \\ +1 \quad +1 \\ \hline 2x > -8 \\ x > -4 \end{array}$$

$$-4 < x < 5$$

$$\textcircled{7} \quad |x-1| < -10$$

$$\downarrow$$

$$+ \# < -10$$

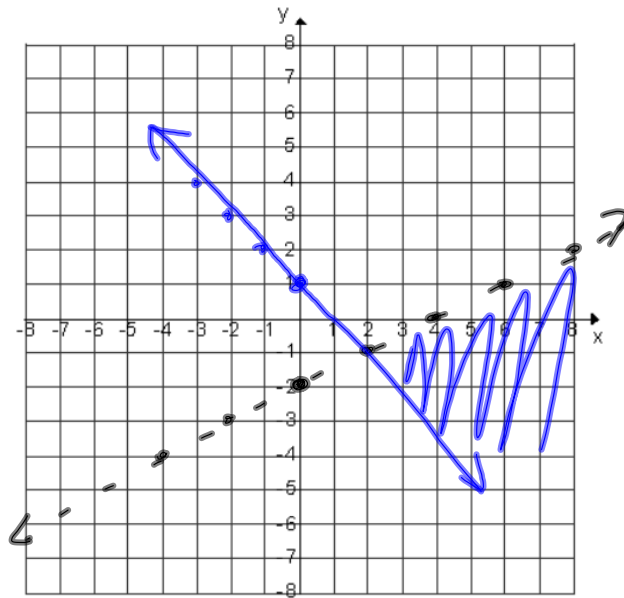
No solution \emptyset

$$\textcircled{8} \quad |2x+7| > -2$$

$$\downarrow$$

$$+ \# > -2$$

\mathbb{R}



$$\begin{cases} y < \frac{1}{2}x - 2 \\ y \geq -x + 1 \end{cases}$$

$$|x+3| \geq 4$$

$$\begin{array}{r} x+3 \geq 4 \\ -3 \quad -3 \\ \hline x \geq 1 \end{array} \quad \text{OR} \quad \begin{array}{r} \cancel{x+3} \geq \frac{4}{-1} \\ \hline x+3 \leq -4 \\ -3 \quad -3 \\ \hline x \leq -7 \end{array}$$

$$x \geq 1 \quad \text{OR} \quad x \leq -7$$

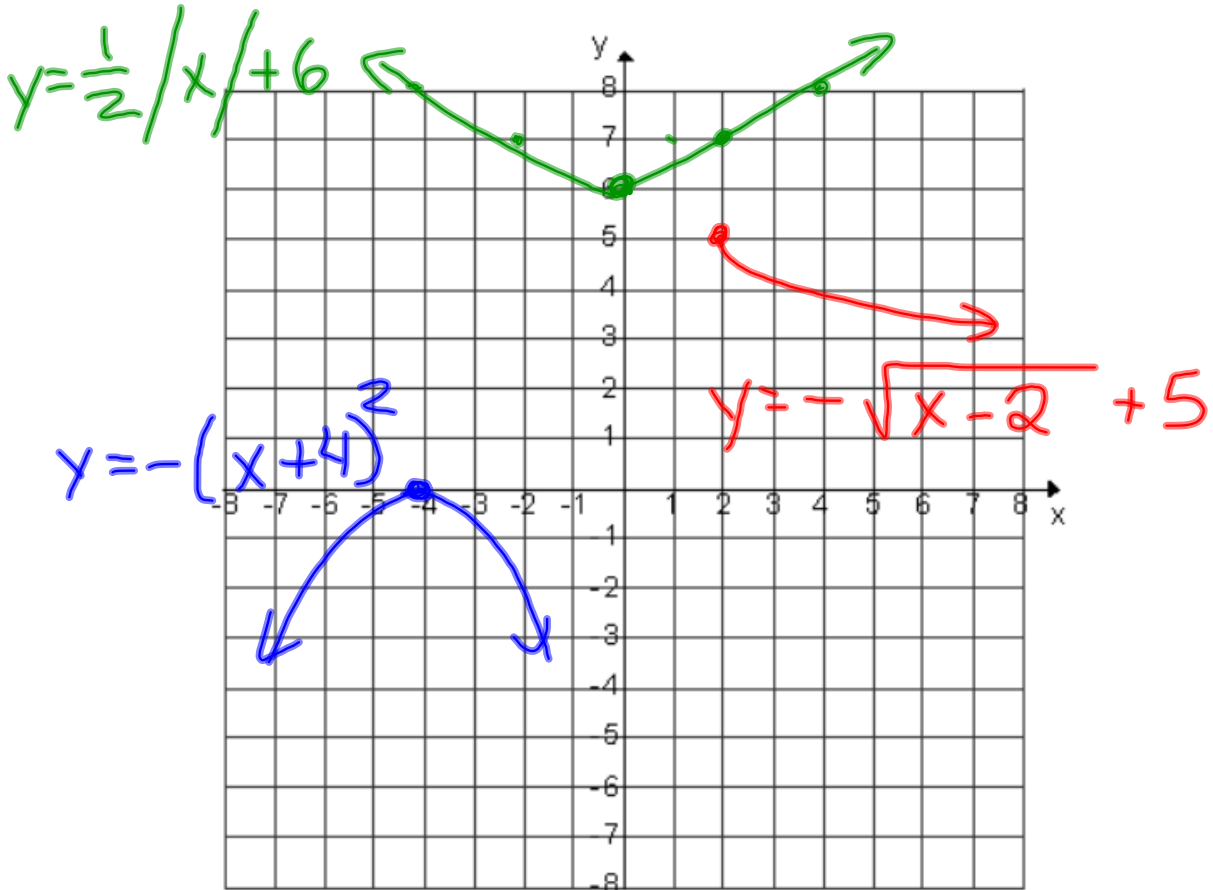
$$y = \frac{|x^2 - 8|}{2x^2}$$

Horizontal: $y = \frac{1}{2}$
Vertical: $x = 0$

$$\begin{aligned} \underline{\underline{2x^2}} &\neq \underline{\underline{0}} \\ x^2 &\neq 0 \\ x &\neq 0 \end{aligned}$$

$$y = \frac{1}{x^2 - 9}$$

2-4-14
4th Trig



$$y = \frac{4x^2 - 5}{1x^2 + 7x + 12} \rightarrow (x+4)(x+3)$$

Horizontal: $y = 4$

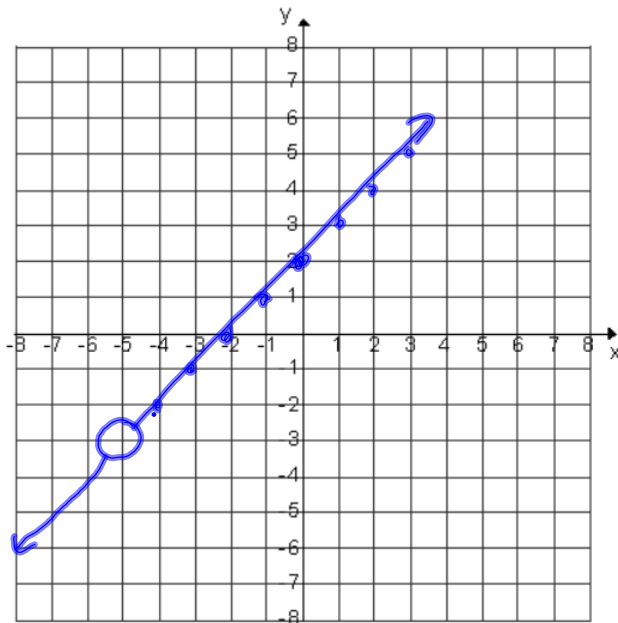
Vertical: $x = -4$ and $x = -3$

Slant: None

Graph $y = \frac{x^2 + 7x + 10}{x + 5}$

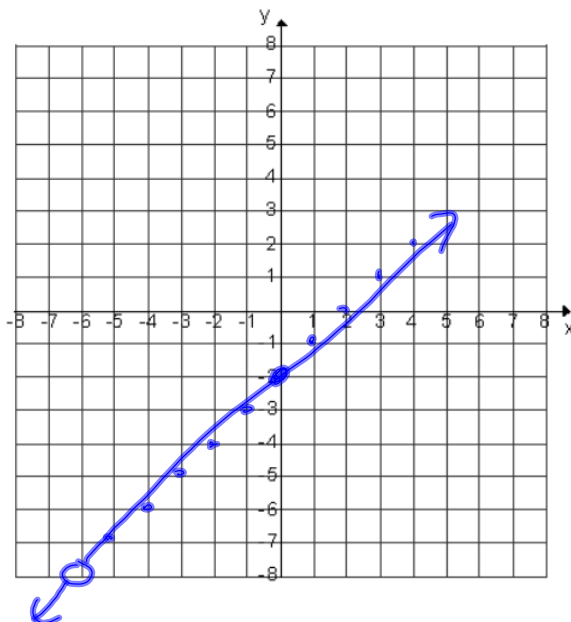
$$y = \frac{\cancel{(x+5)}(x+2)}{\cancel{x+5}}$$

$y = x + 2$ hole at $x = -5$



Graph $y = \frac{\cancel{(x+6)}(x-2)}{\cancel{x+6}}$

$y = x - 2$ hole at $x = -6$



Solve for x : $|2x-3| \leq 7$

$$\begin{array}{r} 2x-3 \leq 7 \\ +3 \quad +3 \\ \hline 2x \leq 10 \\ x \leq 5 \end{array}$$

AND

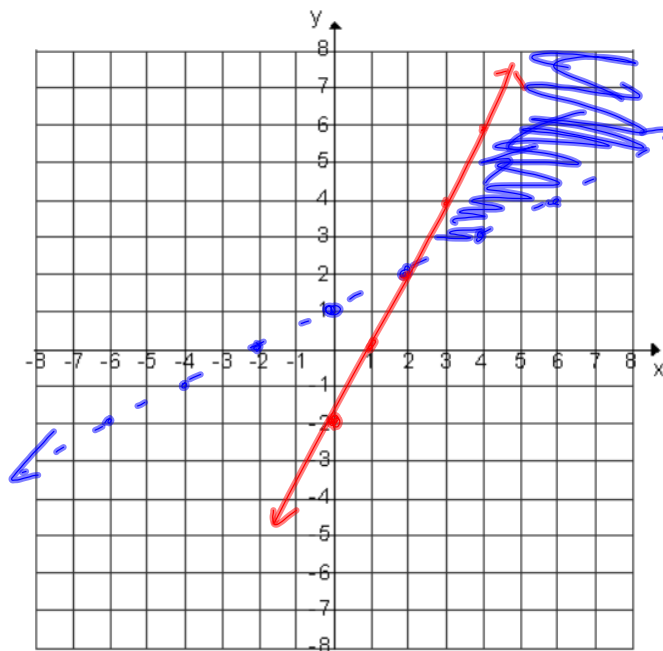
$$\begin{array}{r} \cancel{-(2x-3)} \leq \frac{7}{-1} \\ \hline 2x-3 \geq -7 \\ +3 \quad +3 \\ \hline 2x \geq -4 \\ x \geq -2 \end{array}$$

$$-2 \leq x \leq 5$$

Solve $|x-8| > -1$

↓
positive
number > -1

\mathbb{R}



$$\begin{cases} y > \frac{1}{2}x + 1 \\ y \leq 2x - 2 \end{cases}$$

$$y = \frac{x^2 - 6x + 1}{x + 2}$$

H: None

$$v: x = -2$$

$$\text{Slant: } y = x - 8$$

$$\begin{array}{r} x - 8 \\ \hline x + 2 \overline{) x^2 - 6x + 1} \\ \underline{- x^2 + 2x} \\ -8x + 1 \\ \underline{-8x - 16} \\ 17 \end{array}$$