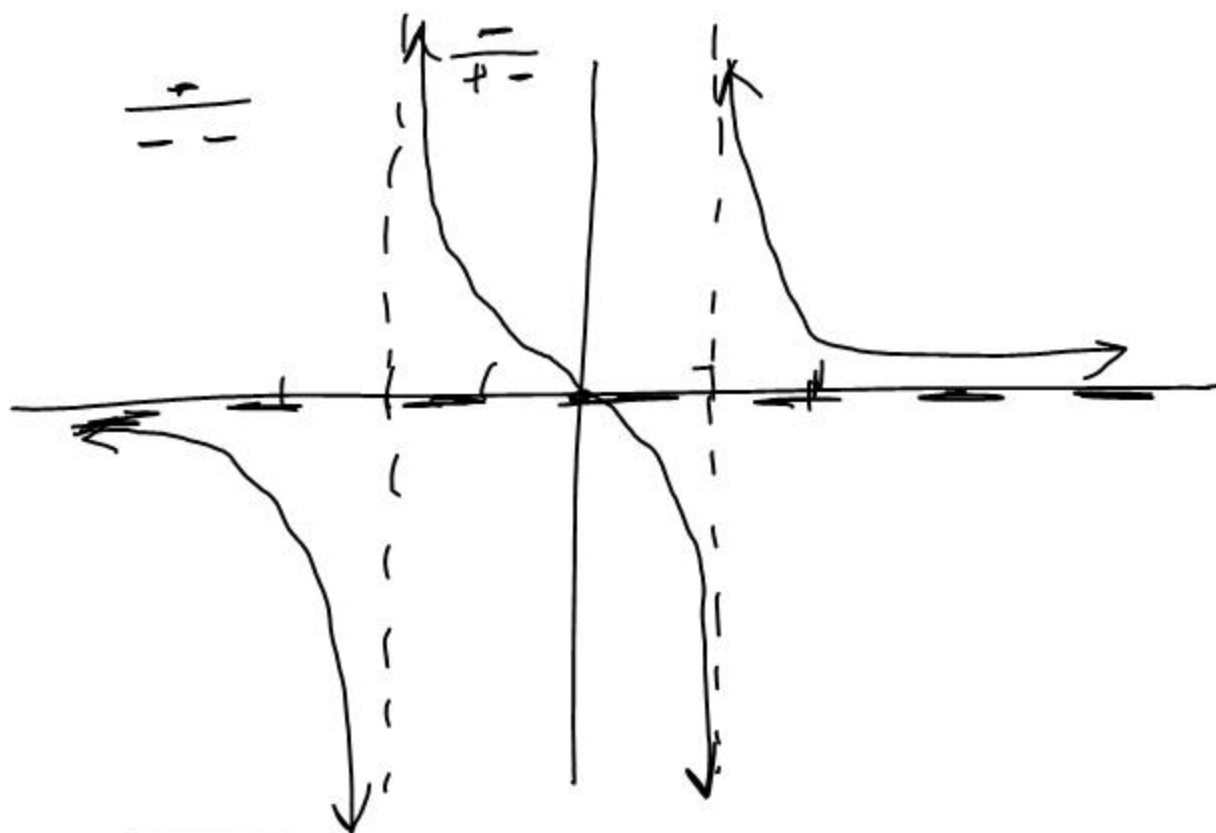
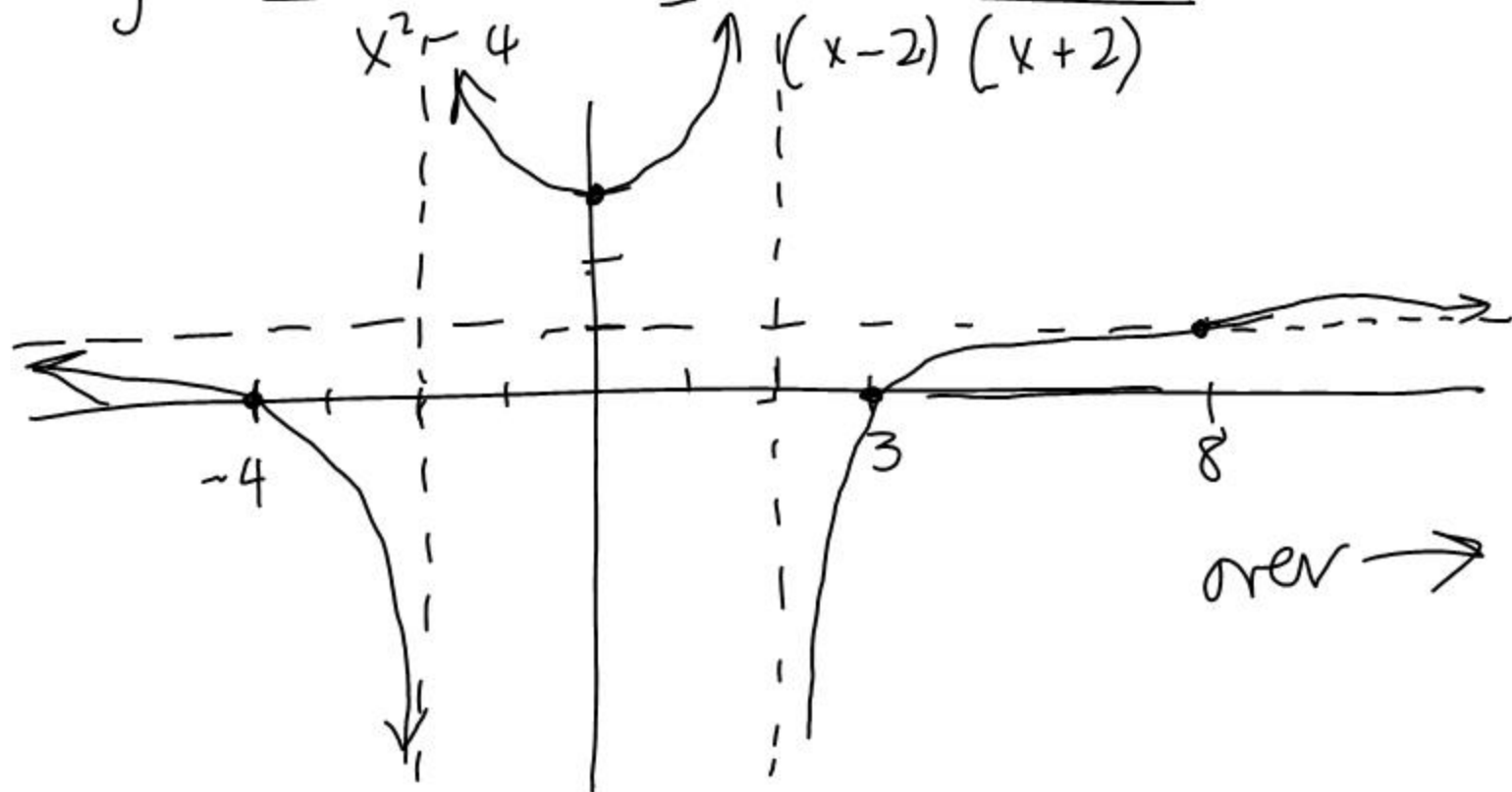


$$y = \frac{x}{x^2 + x - 2} = \frac{x}{(x+2)(x-1)}$$



$$\#4 \quad y = \frac{x^2 + x - 12}{x^2 - 4} = \frac{(x-3)(x+4)}{(x-2)(x+2)}$$



$$\frac{x^2 + x - 12}{x^2 - 4} = 1$$

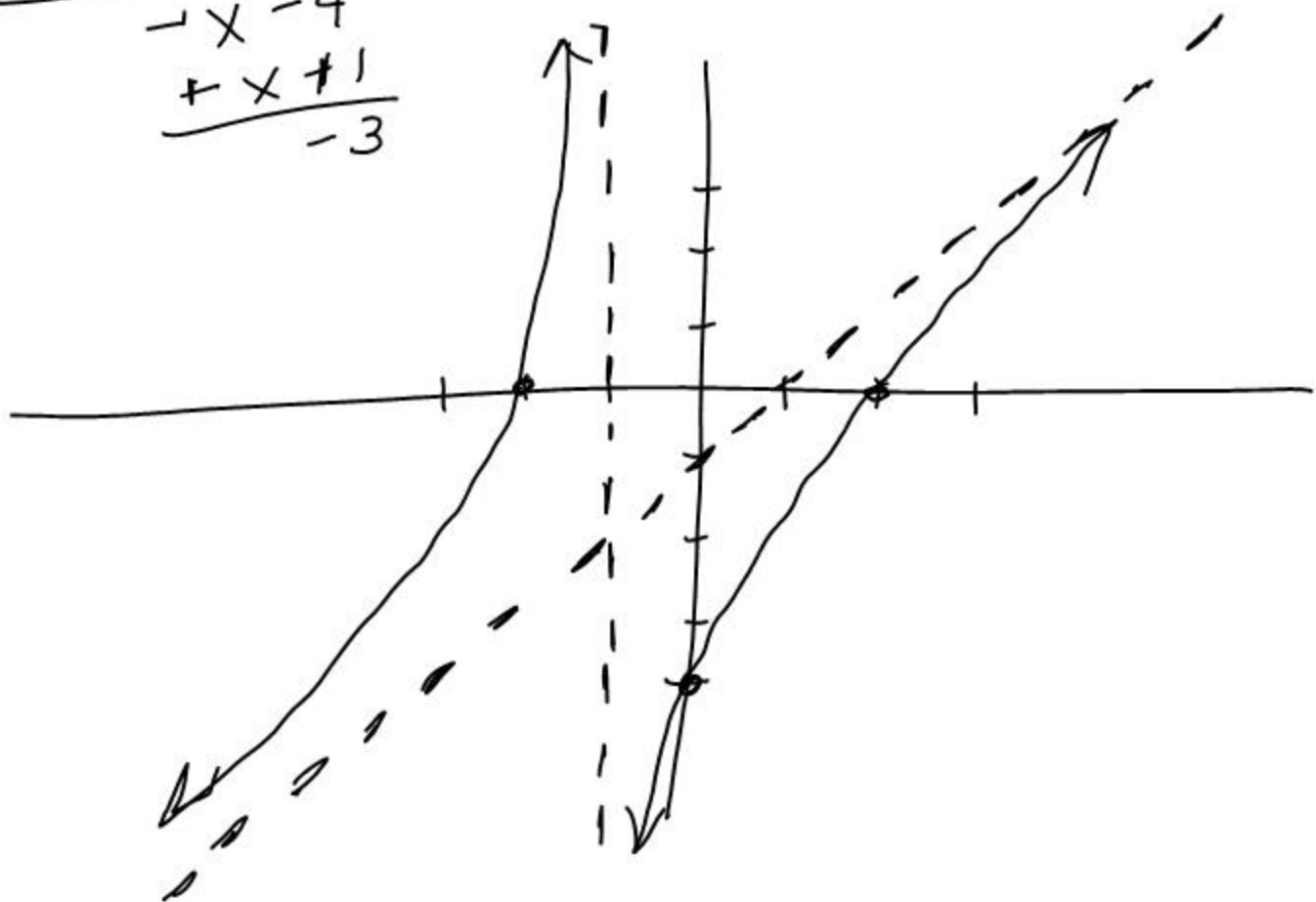
$$x^2 + x - 12 = x^2 - 4$$

$$\boxed{x = 8} \quad (8, 1)$$

$$\#1. \quad y = \frac{x^2 - 4}{x + 1} = \frac{(x + 2)(x - 2)}{x + 1}$$

$$\begin{array}{r} x - 1 - \frac{3}{x + 1} \\ x + 1 \overline{) x^2 - 4} \\ \underline{-x^2 + x} \\ -x - 4 \\ \underline{+x + 1} \\ -3 \end{array}$$

$$\text{NVA: } y = x - 1$$



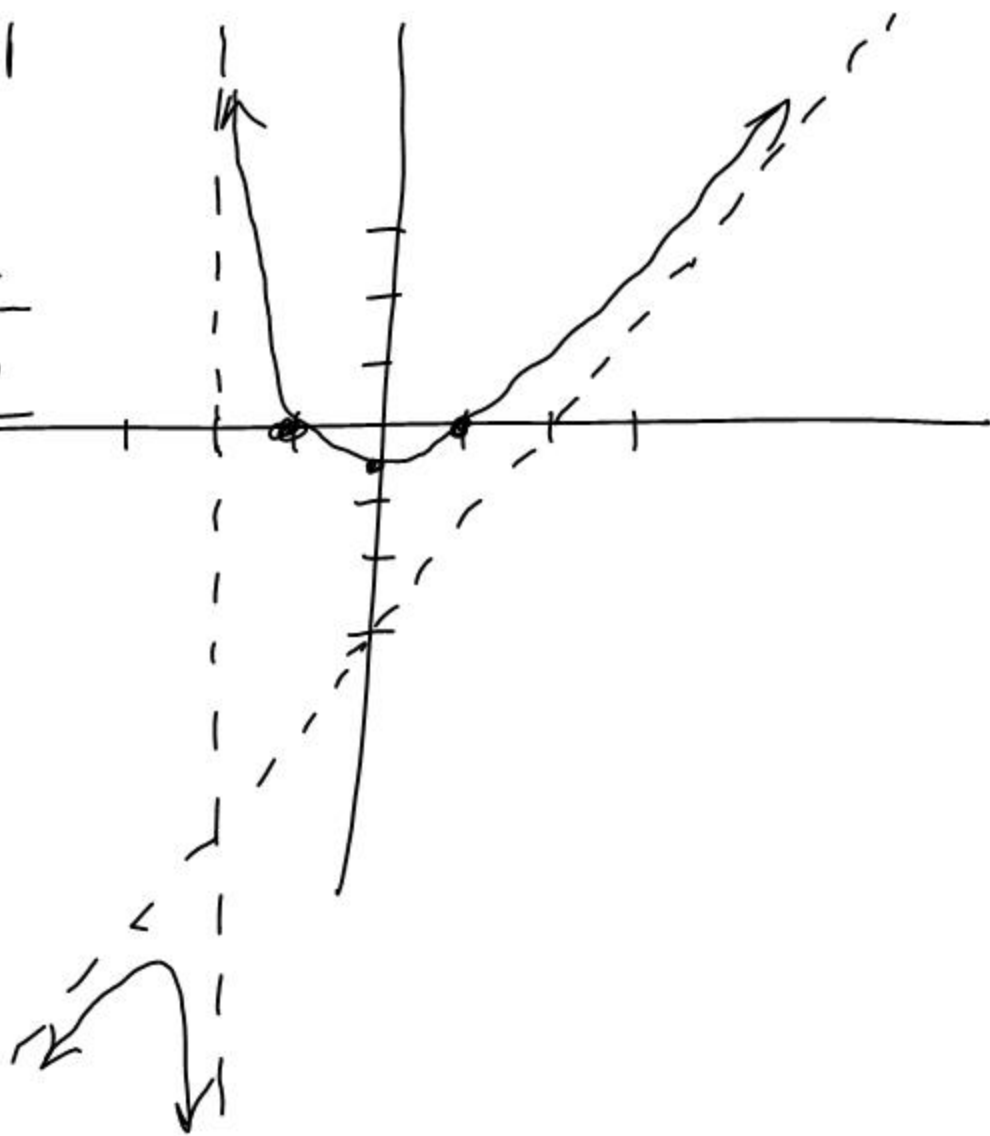
$$\#2. y = \frac{x^2 - 1}{x + 2} = \frac{(x+1)(x-1)}{x+2}$$

$$\text{NVA } y = x - 2$$

$$\begin{array}{r}
 x - 2 \\
 \hline
 x + 2 \overline{) x^2 - 1} \\
 \underline{-x^2 + 2x} \downarrow \\
 2x - 1
 \end{array}$$

$$\begin{array}{r}
 -2 \overline{) 1 - 1} \\
 2 4 \\
 \hline
 1 3 \\
 2 6 \\
 \hline
 1 3
 \end{array}$$

$x = -2$

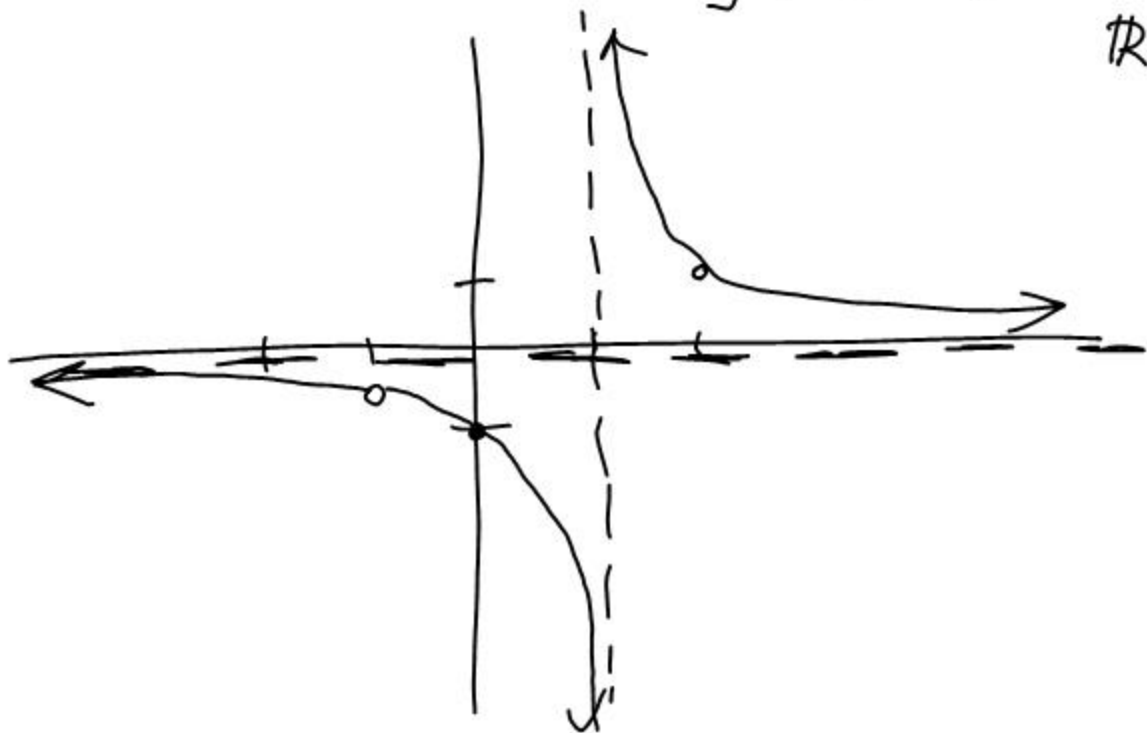


#4. $y = \frac{\cancel{x+1} \cdot 1}{(\cancel{x+1})(x-1)} = \frac{1}{x-1}, x \neq -1$

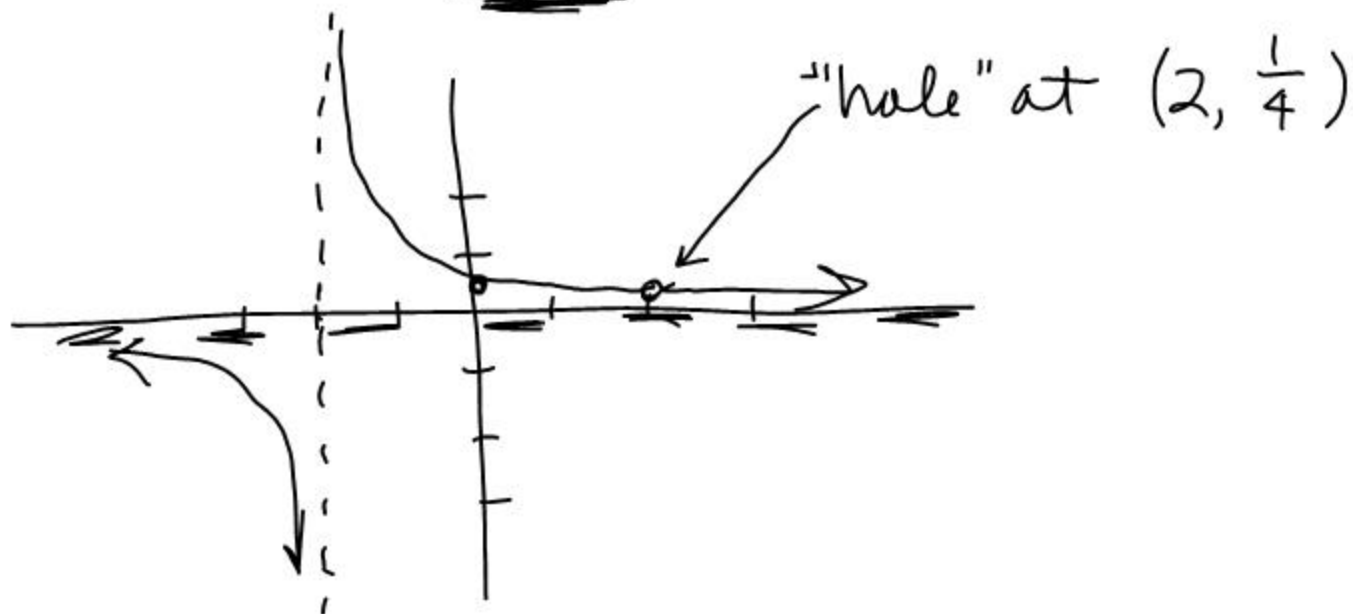
Domain: $\mathbb{R} - \{\pm 1\}$

removable discontinuity $(-1, \frac{1}{2})$

Domain: $\mathbb{R} - \{\pm 1\}$



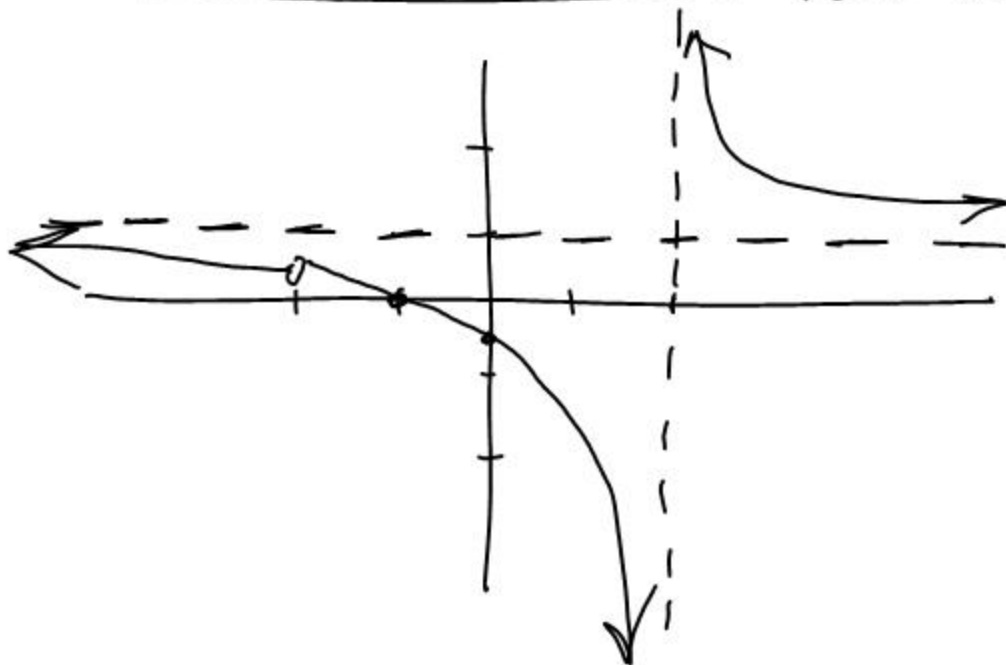
#5. $y = \frac{\cancel{x-2} \cdot 1}{(x+2)(\cancel{x-2})} = \frac{1}{x+2}, x \neq 2$



#4 $y = \frac{x^2 + 3x + 2}{x^2 - 4} = \frac{\cancel{(x+2)}(x+1)}{\cancel{(x+2)}(x-2)}$

$\rightarrow y = \frac{x+1}{x-2}, x \neq -2$ \leftarrow "hole" at $(-2, \frac{1}{4})$

$\frac{-2+1}{-2-2}$



#3.

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

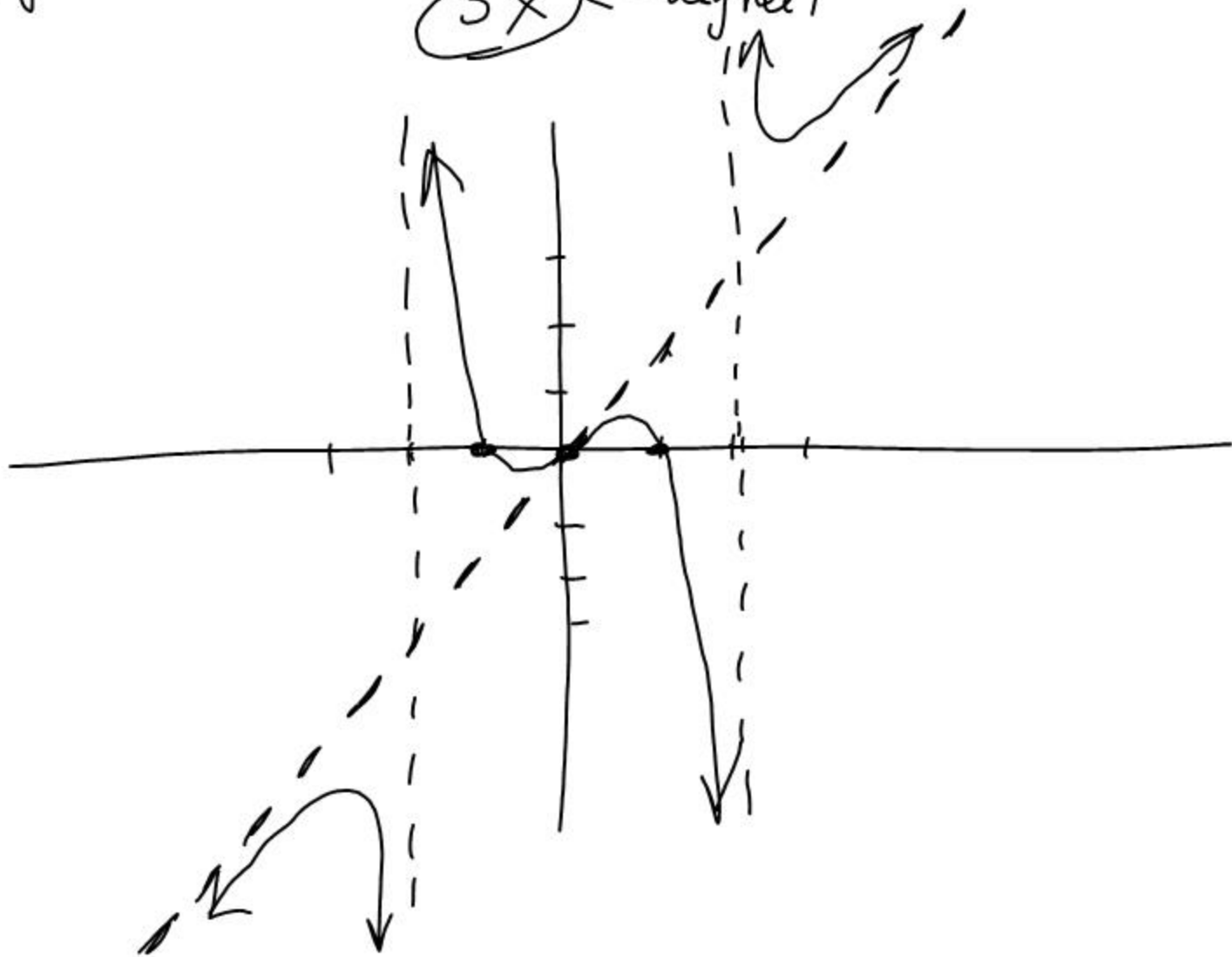
$$\begin{array}{r} x + \frac{3x}{x^2-4} \\ x^2-4 \overline{) x^3 - 4x} \\ \underline{-x^3 + 4x} \\ 3x \end{array}$$

NVA $y = x$

$$f\left(\frac{1}{2}\right) = \frac{++-}{-+}$$

↑
degree 2

3x ← degree 1



Wed 10-11 PSAT

Fri 10-13 Test review questions

Tuesday 10-17 TEST