

Graphing Rational functions : Solutions

①

#1

a, b, c) We did In class (See attached)

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

$$\Rightarrow \text{V.A: } x = -1, x = 3 \rightarrow$$

$$\text{H.A: } y = 0$$

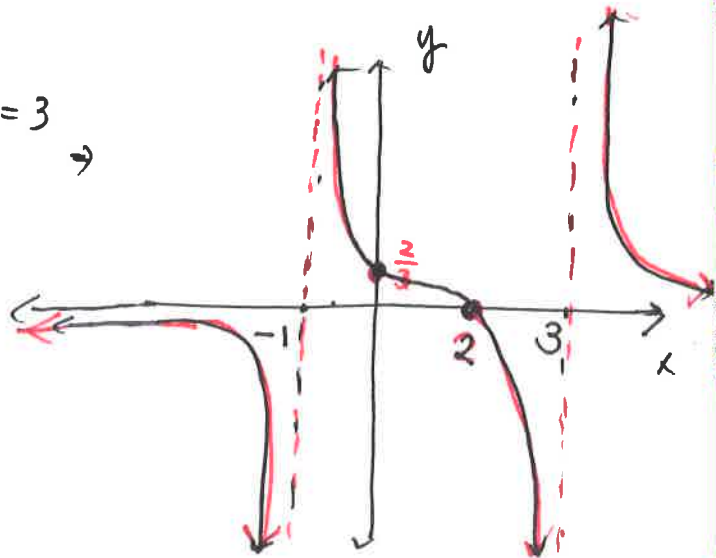
Holes: None

$$x\text{-int: } (2, 0)$$

$$y\text{-int: } (0, \frac{2}{3})$$

$$\text{check: } x = 5 \quad y > 0$$

$$x = -5 \quad y < 0$$



$$e. \quad y = \frac{x^2-36}{x^2-3x-4} \\ = \frac{(x+6)(x-6)}{(x-4)(x+1)}$$

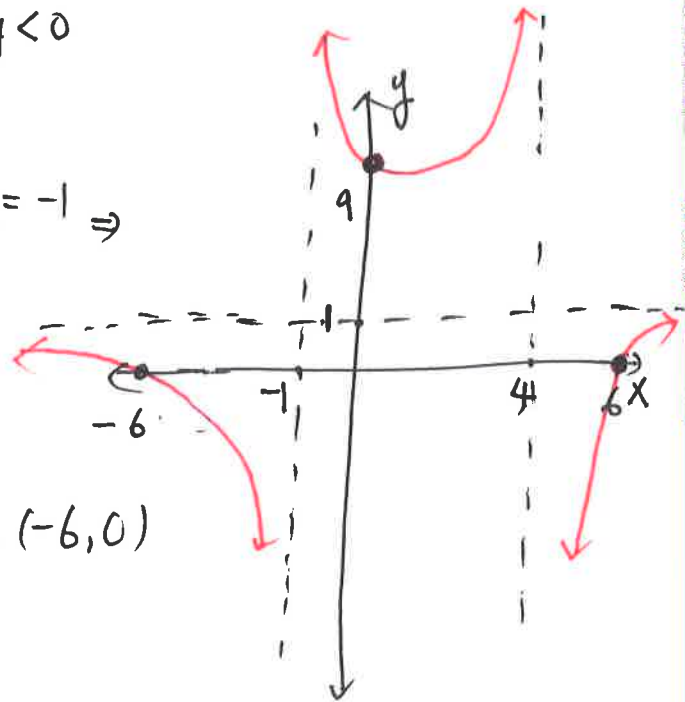
$$\Rightarrow \text{V.A: } x = 4, x = -1 \Rightarrow$$

$$\text{H.A: } y = 1$$

Holes: None

$$x\text{-int: } (6, 0) (-6, 0)$$

$$y\text{-int: } (0, 9)$$



#2.

$$a. \quad y = \frac{(x-5)(x+2)}{2(x-3)(x+1)}$$

$$b. \quad y = \frac{(2x+3)}{3(x-1)(x+1)}$$

$$\text{check for } y\text{-int: } x = 0 \Rightarrow y = \frac{-10}{-6} = \frac{5}{3} \checkmark$$

$$\text{check for } y\text{-int: } x = 0 \Rightarrow y = \frac{3}{-1} = -\frac{1}{3}$$