

Graphing Rational Functions

Graphing Rational Functions:

- Find and graph the VA and HA
- Find and graph the x and y Intercepts and any holes (if any)
- Use a chart to evaluate additional points to show what the graph does on each section of graph (using your VA to split into sections)

$$a) f(x) = \frac{2x-1}{x-3} \quad \frac{9}{2} = 4.5$$

VA:

$$\underline{x=3}$$

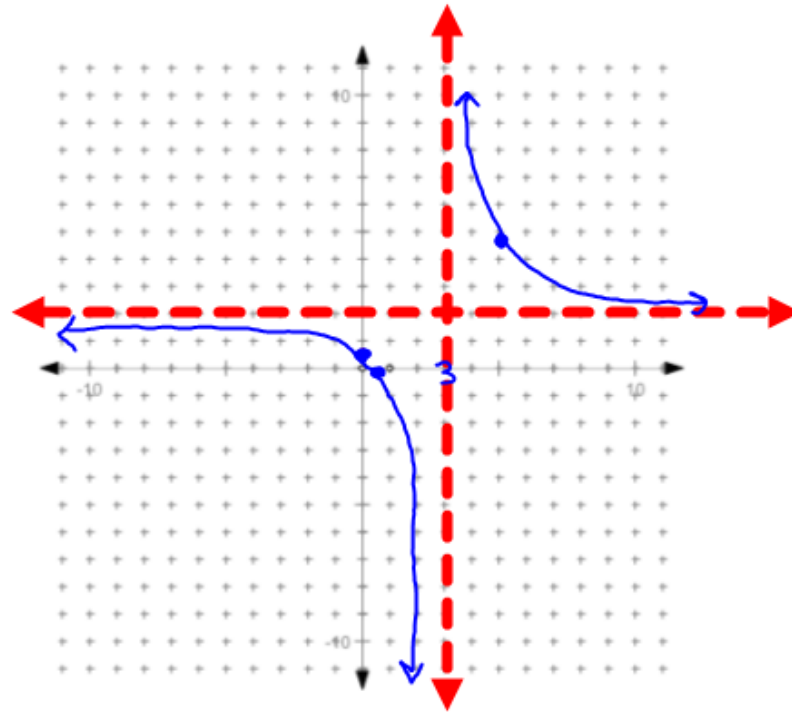
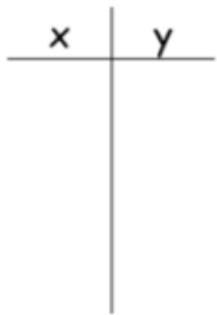
HA:

$$\underline{y=2}$$

Holes: None

Intercepts:

$$\left\{ \begin{array}{l} y\text{-int: } .\overline{33} \\ x\text{-int: } 0.5 \end{array} \right.$$



$$b) f(x) = \frac{2x^2 - 18}{x^2 - 4} = \frac{2(x^2 - 9)}{(x-2)(x+2)} = \frac{2(x-3)(x+3)}{(x-2)(x+2)}$$

VA: $x = 2$ $x = -2$

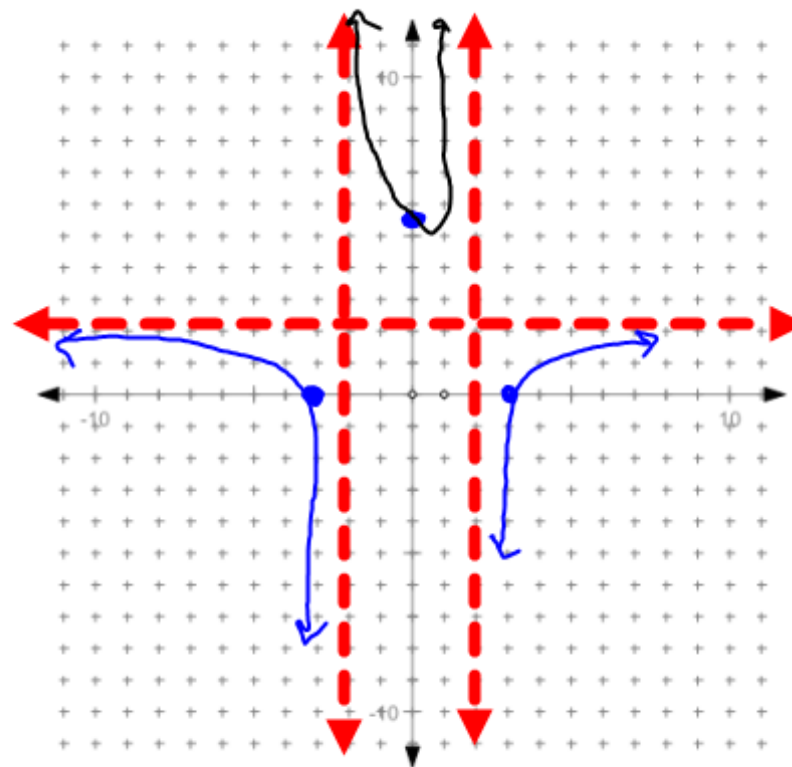
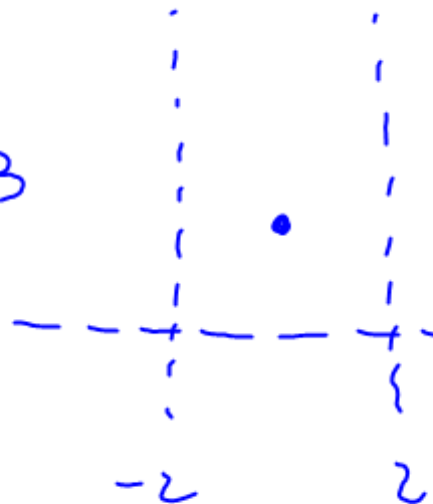
HA: $y = 2$

Holes: ? N/A

Intercepts: y-int: 4.5

x-int: 3

x-int: -3



$$c) f(x) = \frac{2x-4}{x-1}$$

VA: $x=1$

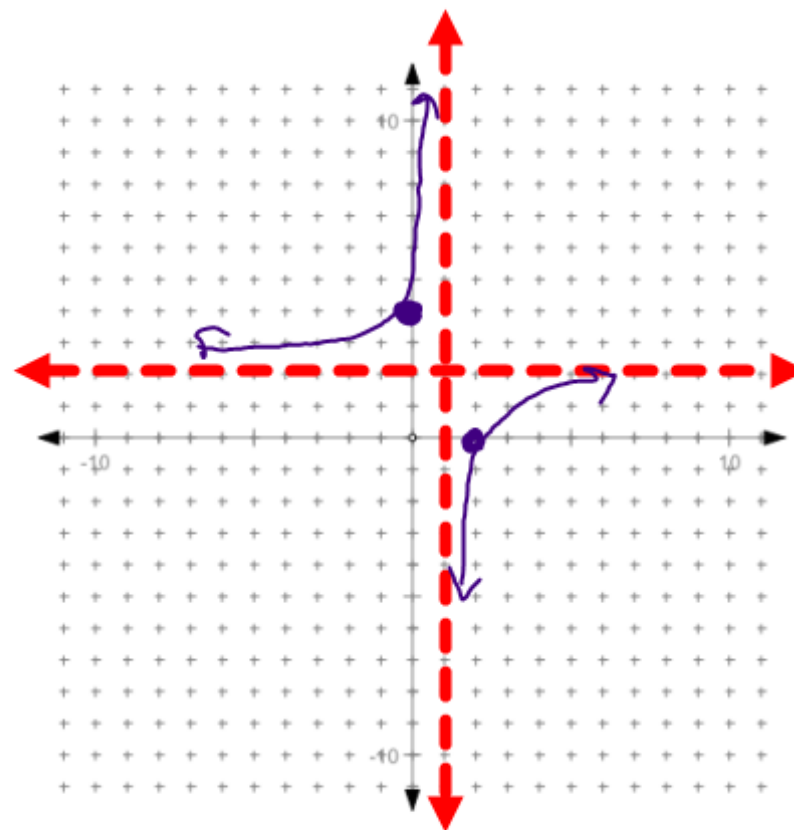
HA: $y=2$

Holes: N/A

Intercepts:

X-int: 2

Y-int: 4



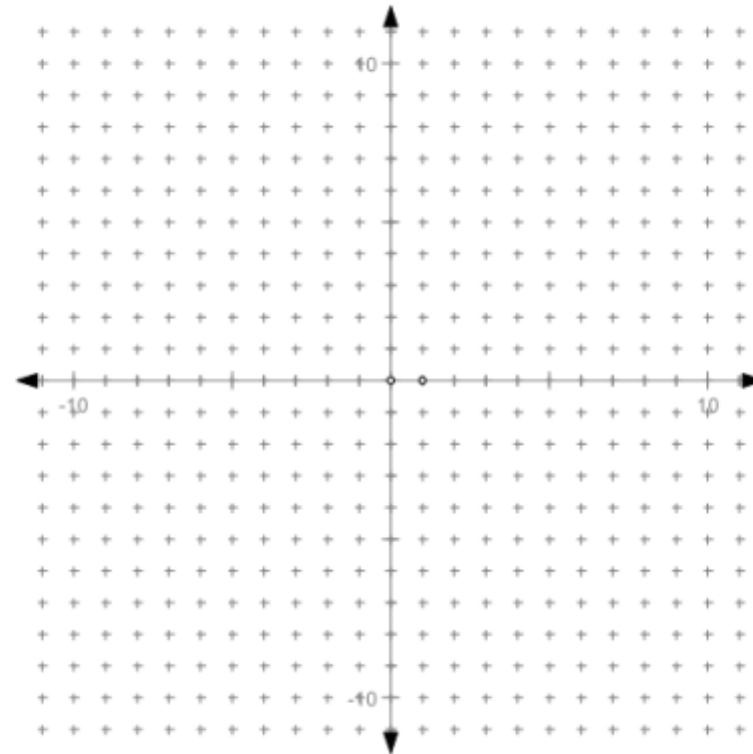
$$d) f(x) = \frac{2x^2 - 8}{x^2 - 3x + 2}$$

VA:

HA:

Holes:

Intercepts:



Graphing Activity