

$$47. r(x) = \frac{x^2 - 2x + 1}{x^2 + 2x + 1}$$

$$\hookrightarrow (x+1)^2$$

x-int:

$$(y=0) \rightarrow x^2 - 2x + 1 = 0$$

y-int: |
(x=0)

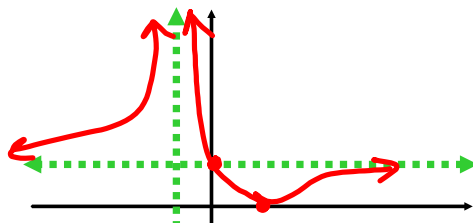
$$1 \quad \frac{1x - 3 + \frac{4}{x+1}}{x+1}$$

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

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

$$HA \Rightarrow y = 1$$

$$VA \Rightarrow x = -1$$

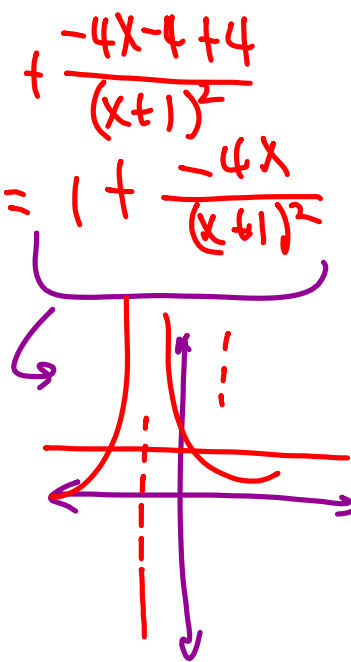


$$f(-1.1) > 0 \quad f(-.9) > 0$$

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

$$0 = \frac{-4x}{(x+1)^2} \rightarrow \underline{x=0}$$

$$x = 1 \quad \begin{array}{r|rr} -1 & 1 & -2 & 1 \\ & & -1 & 3 \\ \hline -1 & 1 & -3 & 4 \\ & & -1 & \\ \hline & 1 & -4 & \end{array}$$



$$69. y = \frac{2x^2 - 5x}{2x + 3}$$

$$x\text{-int} = 0, \frac{5}{2}$$

($y=0$)

$$y\text{-int} = 0$$

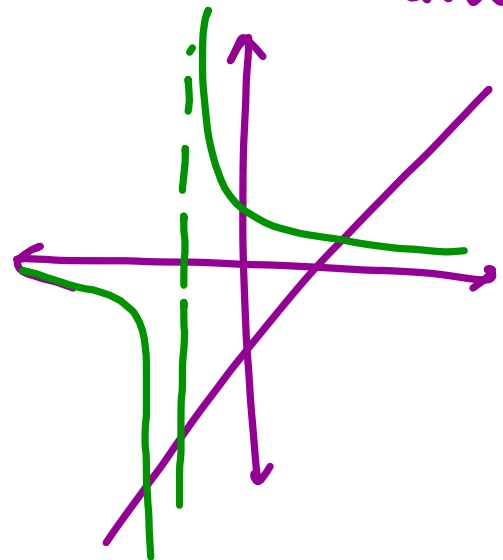
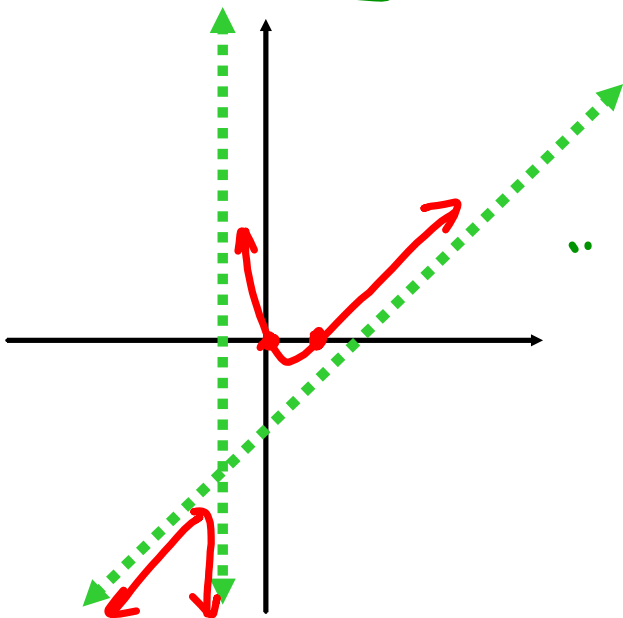
$$\begin{array}{r} -\frac{3}{2} \Big) \quad 2 \quad -5 \quad 0 \\ \underline{2} \quad -3 \quad 12 \\ 2 \quad -8 \quad \underline{12} \end{array}$$

$$\frac{2x^2 - 5x}{x + \frac{3}{2}} = \frac{2x - 8 + \frac{12}{2}}{x + \frac{3}{2}}$$

$$= x - 4 + \frac{12}{2x + 3}$$

$$x - 4 = x - 4 + \frac{12}{2x + 3}$$

$$0 \neq \frac{12}{2x + 3}$$



$$55. s(x) = \frac{x^2 - 2x + 1}{x^3 - 3x^2} + 0$$

x-int: 1 (m2)

y-int: None

HA: $y=0$

VA: $x=0, x=3$
(m2)

