

$$\lim_{x \rightarrow \frac{3}{4}} \frac{8x^2 - 10x + 3}{4x^2 - 11x + 6}$$

$$\lim_{x \rightarrow \frac{3}{4}} \frac{8 \cancel{(x - \frac{3}{4})} (x - \frac{1}{2})}{4 \cancel{(x - 2)} \cancel{(x - \frac{3}{4})}} =$$

$$= \lim_{x \rightarrow \frac{3}{4}} \frac{2 (x - \frac{1}{2})}{(x - 2)} = \frac{2 (\frac{3}{4} - \frac{1}{2})}{(\frac{3}{4} - 2)} = \frac{2 \cdot \frac{1}{4}}{-\frac{5}{4}} = \frac{1}{-\frac{5}{4}} = -\frac{4}{5}$$

$$\Delta = 100 - 96 = 4$$

$$x_{1,2} = \frac{+10 \pm 2}{16} = \frac{+12}{16} \quad \frac{3}{4}$$

$$\frac{1}{2}$$

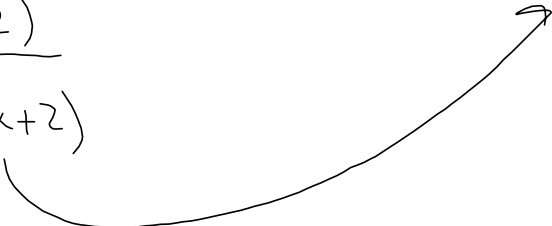
$$\Delta = 121 - 96 = 25$$

$$x_{1,2} = \frac{11 \pm 5}{8} = \frac{16}{8} \quad 2$$

$$\frac{3}{4}$$

$$\lim_{x \rightarrow 2} \frac{x^2 - 4}{x^3 - 2x - 4} = \begin{bmatrix} 0 \\ 0 \end{bmatrix}$$

$$\begin{array}{c|ccc|c} & 1 & 0 & -2 & -4 \\ 2 & & 2 & 4 & 4 \\ \hline & 1 & 2 & +2 & // \end{array}$$

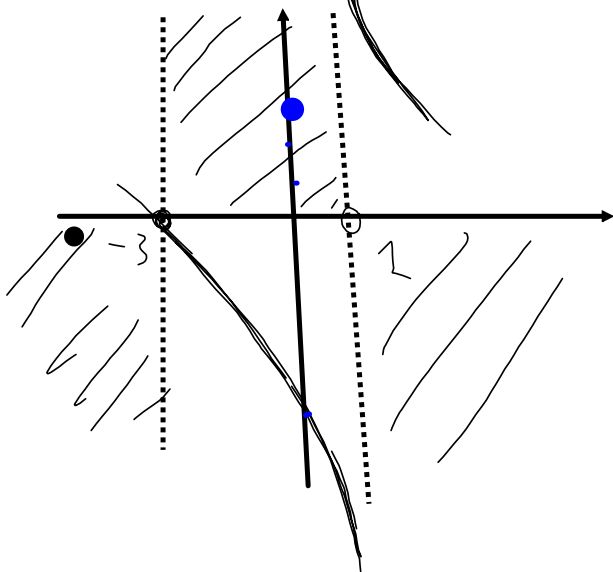
$$\lim_{x \rightarrow 2} \frac{(x+2)(\cancel{x-2})}{(\cancel{x-2})(x^2+2x+2)}$$


$$y = \frac{x+3}{x-1}$$

$$D: \mathbb{R} - \{1\}$$

$$N: x+3 \geq 0 \quad x \geq -3$$

$$D: x-1 > 0 \quad x > 1$$



	-3	1	
N	-	+	+
D	-	-	+
	+	-	+

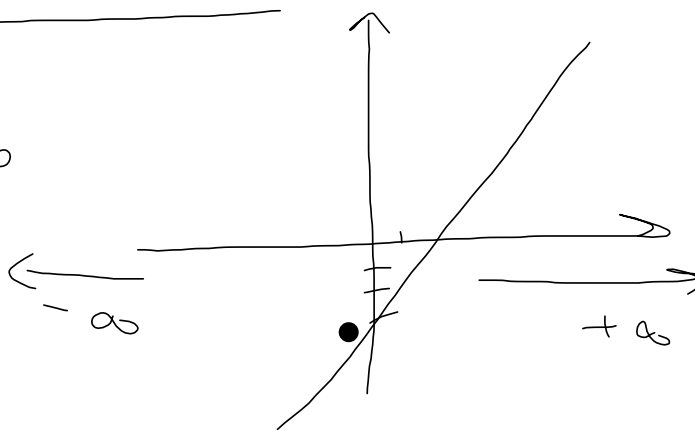
$$\lim_{x \rightarrow 1^-} \frac{x+3}{x-1} = \left[\frac{4}{0^-} \right] = -\infty$$

$$\lim_{x \rightarrow 1^+} \frac{x+3}{x-1} = +\infty$$

Limite per $x \rightarrow \infty$

$$\lim_{x \rightarrow +\infty} x - 3 = +\infty$$

$$\lim_{x \rightarrow -\infty} x - 3 = -\infty$$



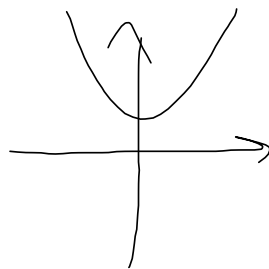
$$y = 3x^2 + 1$$

$$\lim_{x \rightarrow \infty} 3x^2 + 1 = +\infty$$

$x \rightarrow \infty$

$$\lim_{x \rightarrow -\infty} 3x^2 + 1 = +\infty$$

$x \rightarrow -\infty$



$$y = -4x^2 = -$$

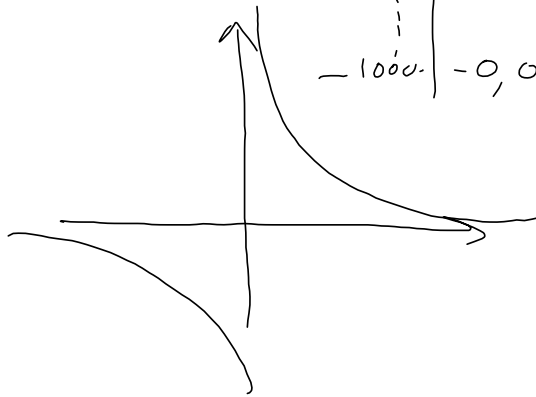
$$\lim_{x \rightarrow \infty} -4x^2 = -4(-\infty)^2 = -\infty$$

$$\lim_{x \rightarrow +\infty} x^3 - 7 = (+\infty)^3 - 7 = +\infty$$

$$\lim_{x \rightarrow -\infty} x^3 - 7 = (-\infty)^3 - 7 = -\infty$$

$$\lim_{x \rightarrow \infty} \frac{5}{x} = 0$$

x	y
-1	-5
-5	-1
...	...
-1000	-0,000...



x	y
1	5
5	1
10	0,5
100	0,05
10000000	0,0000005
↓	↓
∞	0

$$\lim_{x \rightarrow \infty} x^2 + x + 1 = (\infty)^2 + \infty + 1 \cdot \infty$$

$$\lim_{x \rightarrow -\infty} x^2 + x + 1 = \infty - \infty \quad ?$$

