

$$y = \frac{3x + 1}{x - 2}$$

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$CE \neq 2$

$$\lim_{x \rightarrow 2} \frac{3x + 1}{x - 2} = \frac{7}{0} = \infty$$

$x = 2$ A.V.

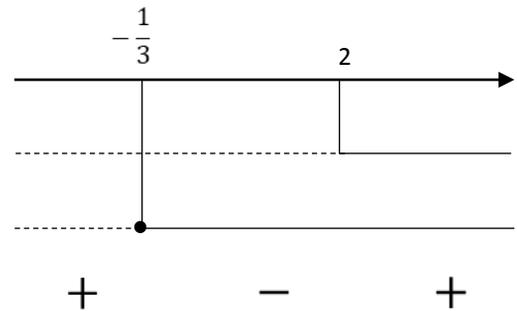
$$\lim_{x \rightarrow \infty} \frac{3x + 1}{x - 2} = 3$$

$y = 3$ A.O.

Intersezione asse x e studio segno

$$N: 3x + 1 \geq 0 \quad x \geq -\frac{1}{3}$$

$$D: x - 2 > 0 \quad x > 2$$



Intersezione asse y

$$\begin{cases} x = 0 \\ y = -\frac{1}{2} \end{cases}$$

Derivata prima

$$y' = \frac{f' \cdot g - f \cdot g'}{g^2}$$

$$f = 3x + 1 \quad f' = 3$$

$$g = x - 2 \quad g' = 1$$

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

$$\frac{\cancel{3x} - 6 - \cancel{3x} - 1}{(x - 2)^2} \geq 0 \quad \longrightarrow \quad \frac{-7}{(x - 2)^2} \geq 0 \quad \text{MAI}$$

La $f(x)$ non ha né max né min ed è sempre decrescente

