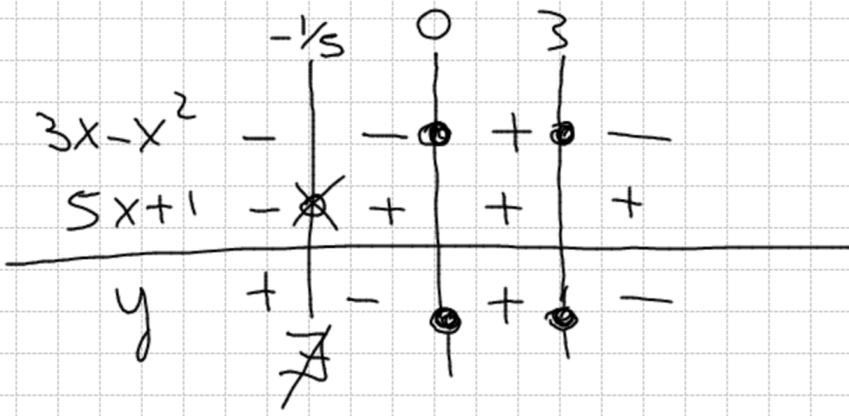


$$y = \frac{3x - x^2}{5x + 1}$$

$$D = \{ \forall x \in \mathbb{R} : x \neq -1/5 \}$$

$$D =]-\infty; -1/5[\cup]-1/5; +\infty[$$



intersezioni con gli assi

$$(0; 0) \quad (3; 0)$$

Asintoti:

$$A.V. \quad X = -1/5$$

Asintoto obliquo

$$m = \lim_{x \rightarrow \infty} \frac{3x - x^2}{5x^2 + x} = \lim_{x \rightarrow \infty} \frac{\frac{3}{x} - 1}{5 + \frac{1}{x}} = -\frac{1}{5}$$

$$q = \lim_{x \rightarrow \infty} \left(\frac{3x - x^2}{5x + 1} + \frac{1}{5}x \right) =$$

$$= \lim_{x \rightarrow \infty} \frac{15x - 5x^2 + 5x^2 + x}{5(5x + 1)} = \lim_{x \rightarrow \infty} \frac{16x}{25x + 5} = \lim_{x \rightarrow \infty} \frac{16}{25 + \frac{5}{x}} = \frac{16}{25}$$

$$A.S. \text{ OBL.} = y = -\frac{1}{5}x + \frac{16}{25}$$

$$q = \frac{16}{25}$$

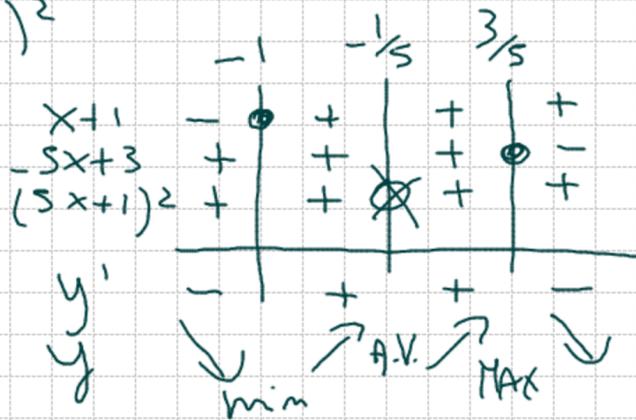
Studio della derivata:

$$y' = \frac{(3-2x)(5x+1) - 5(3x-x^2)}{(5x+1)^2} \Rightarrow y' = \frac{15x+3-10x^2-2x-15x+5x^2}{(5x+1)^2}$$

$$y' = \frac{-5x^2 - 2x + 3}{(5x+1)^2}$$

Scompone $-5x^2 - 2x + 3$
 $-5x^2 - 5x + 3x + 3 = -5x(x+1) + 3(x+1)$
 $= (x+1)(-5x+3)$

$$y' = \frac{(x+1)(-5x+3)}{(5x+1)^2}$$



$$f(-1) = 1$$

$$f\left(\frac{3}{5}\right) = \frac{\frac{9}{5} - \frac{9}{25}}{4} = \frac{36}{25} \cdot \frac{1}{4} = \frac{9}{25}$$

$$\text{min}(-1; 1)$$

$$\text{MAX}\left(\frac{3}{5}; \frac{9}{25}\right)$$

