

EXEMPLO 6

Fazer o estudo das concavidades da função $f(x) = 2x^3 - 3x^2 - 12x + 12$.

$$f'(x) = 6x^2 - 6x - 12$$

$$f''(x) = 12x - 6$$

$$12x - 6 = 0$$

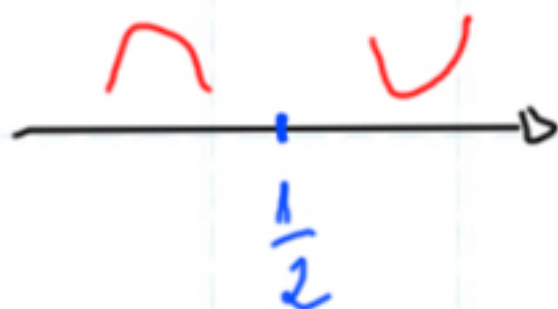
$$12x = 6$$

$$x = \frac{6}{12} = \frac{1}{2}$$

st. sig.



concav. f



$$2 \cdot \frac{1}{8} - 3 \cdot \frac{1}{4} - 12 \cdot \frac{1}{2} + 12 = \frac{1}{4} - \frac{3}{4} - 4 + 12 = -\frac{1}{2} + 8 = \frac{15}{2} = 7.5$$

