

2

$$f(x) = -2x^3 + 3x^2 + 12x + 3$$

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

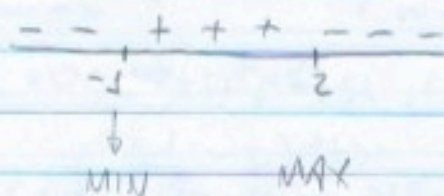
$$f(0) = 3 \rightarrow (0, 3) \quad D: \mathbb{R}$$

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

FUNÇÃO POLINOMIAL NÃO TEM ASSÍNTOTAS

$$\begin{aligned} f'(x) &= -6x^2 + 6x + 12 \\ &= -6(x^2 - x - 2) \\ &= -6(x+1)(x-2) \\ x_1 &= -1 \quad x_2 = 2 \end{aligned}$$



$$f'(-2) = -24$$

$$f'(0) = 12$$

$$f'(3) = -24$$

DECRESC $(-\infty, -1) \cup (2, \infty)$

CRESC $(-1, 2)$

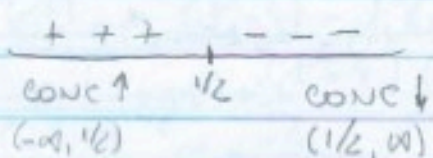
$$f(-1) = -9$$

$$f(2) = 22$$

$$\begin{aligned} f''(x) &= -12x + 6 = 0 \\ x &= 1/2 \end{aligned}$$

$$f''(0) = 6$$

$$f''(1) = -6$$



$$f(1/2) = 17/2$$

