$D: (-\infty, \infty)$ (5)

$f(t) = 3t^4 + 4t^3$

INTERCEPTOS $f(0) = 0 \rightarrow (0,0)$

$f(t) = 0 \Rightarrow 3t^4 - 4t^3 = 0 \Rightarrow t^3(3t - 4) = 0$

$t = 0 \quad t = \frac{4}{3}$

POLINÔMIO → SEM ASSÍNTOTAS

$(0,0)\ (4/3, 0)$

$\lim_{x \to \infty} f(t) = \infty \quad ; \lim_{x \to -\infty} = \infty$

$f'(t) = 12t^3 + 12t^2 = 0$

$12t^2(t+1) = 0$

$t_I = 0 \quad t_{II} = -1$

$f'(-2) = -48$

$f'(-1/2) = 1,5$

$f'(1) = 24$

$- - \ | \ + + + \ | \ + + +$ (−1, 0)

↓ MIN

$f(-1) = -1$

$f(0) = 0$

DECRESC. $(-\infty, -1)$

CRESC $(-1, \infty)$

$f''(t) = 36t^2 + 24t = 0$

$12t(3t + 2) = 0$

$t_I = 0 \quad t_{II} = -\frac{2}{3}$

$f''(-1) = 60$

$f''(-0,5) = -3$

$f''(1) = 60$

$+ + \ | \ - - - \ | \ + +$ (−2/3, 0)

CONC ↑ $(-\infty, -2/3)\ (0, \infty)$

CONC ↓ $(-2/3, 0)$

$f(-2/3) = -16/27$

$f(0) = 0$