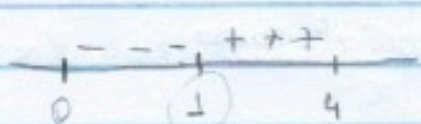


$$f(t) = 10t - 40\sqrt{t} + 50 \quad (0 \leq t \leq 4) \quad * [0, 4]$$

$$f'(t) = 10 - 20t^{-1/2} = 10 - \frac{20}{\sqrt{t}} = \frac{10\sqrt{t} - 20}{\sqrt{t}} = \frac{10(\sqrt{t} - 2)}{\sqrt{t}} = 0 \quad (t \neq 0)$$



$$\sqrt{t} = 2$$

$$t = 4$$

$$f(0) = 50$$

$$f(1) = 30 \rightarrow (1, 30) \text{ MIN ABS} \Rightarrow \text{MINOR VELOCIDADE M30M}$$

$$f(4) = 50$$

$$30 \text{ Miles/h}$$

$$p = -0,00042x + 6 \quad (0 \leq x \leq 12000) \quad [0, 12000]$$

$$R(x) = p \cdot x = (-0,00042x + 6)x \\ = -0,00042x^2 + 6x$$

$$C(x) = 600 + 2x - 0,00002x^2$$

$$P(x) = (-0,00042x^2 + 6x) - (600 + 2x - 0,00002x^2)$$

$$P(x) = -0,0004x^2 + 4x - 600$$

$$P'(x) = -0,0008x + 4 = 0$$

$$x = 5000$$



MAX R3L

$$f(0) = -600$$

$$f(5000) = 9400 \rightarrow \text{MAX ABS} (5000, 9400)$$

$$f(12000) = -10200$$