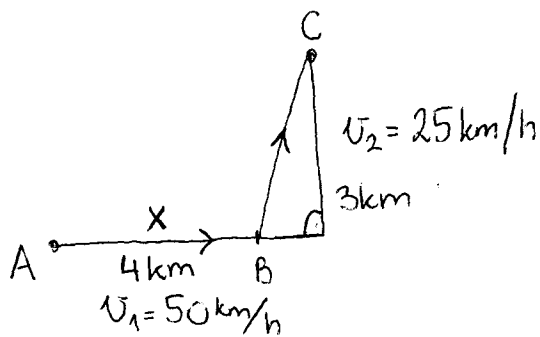


3.)



$$x = ? \quad t_{\min} = ?$$

$$t = \frac{\Delta x}{v_x} \text{ ha } v_x = \text{all}$$

(i)

$$t = t_{AB} + t_{BC}$$

$$t = \frac{x}{v_1} + \frac{\sqrt{(4-x)^2 + 3^2}}{v_2} = \frac{x}{50} + \frac{\sqrt{16 - 8x + x^2 + 9}}{25} = \frac{x}{50} + \frac{\sqrt{25 - 8x + x^2}}{25}$$

Minimum ha derivált zero

$$\frac{dt}{dx} = \frac{1}{50} + \frac{2x - 8}{2 \cdot 25 \sqrt{25 - 8x + x^2}} = \frac{\sqrt{25 - 8x + x^2} + 2x - 8}{50 \sqrt{25 - 8x + x^2}} = 0$$

$$\sqrt{25 - 8x + x^2} = 8 - 2x \quad /^2$$

$$0 = x^2 - 8x + 13$$

$$x_{1,2} = \frac{8 \pm \sqrt{64 - 52}}{2} < \frac{4 - \sqrt{3}}{4 + \sqrt{3}} = 2,2679 \text{ km}$$

(ii)

$$t = \frac{2,2679}{50} + \frac{\sqrt{25 - 8 \cdot 2,2679 + 2,2679^2}}{25} = 0,1839 \text{ h}$$

$$t = 11 \text{ perc és } 2 \text{ mp}$$