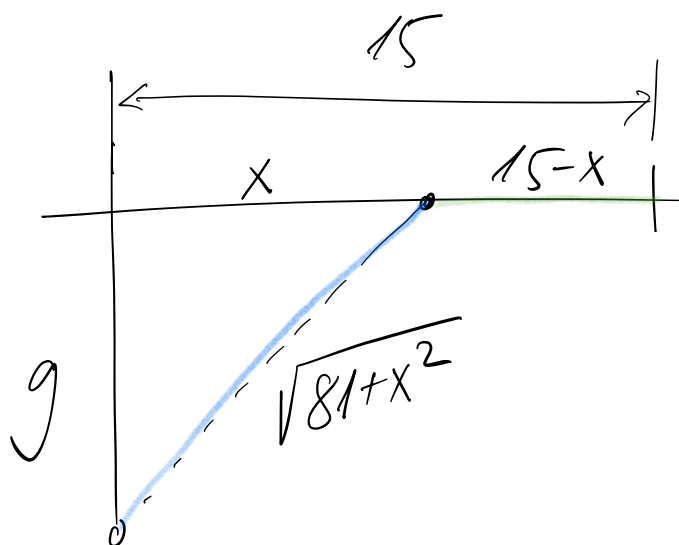




$$V = \frac{d}{t}$$

$$t = \frac{d}{V}$$

$$(\sqrt{u})' = \frac{u'}{2\sqrt{u}}$$

$$t(x) = \frac{\sqrt{81+x^2}}{4} + \frac{15-x}{5}$$

$$t'(x) = \frac{1}{4} \cdot \frac{1}{2\sqrt{81+x^2}} \cdot 2x + \frac{1}{5} \cdot (-1)$$

$$= \frac{2x}{8\sqrt{81+x^2}} - \frac{1}{5} = \frac{10x - 8\sqrt{81+x^2}}{40\sqrt{81+x^2}}$$

$$t'(x) = 0 \Leftrightarrow 10x - 8\sqrt{81+x^2} = 0$$

$$10x = 8\sqrt{81+x^2} \quad (1)'$$

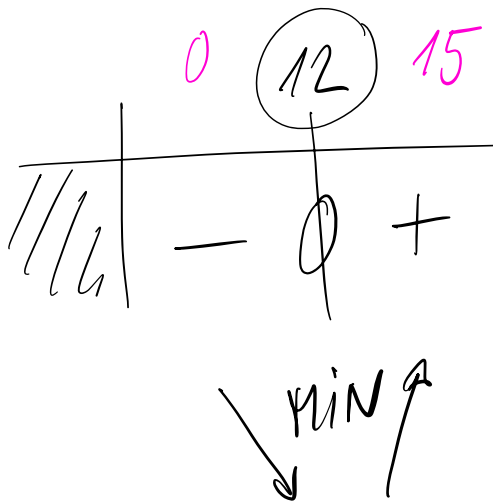
$$100x^2 = 64(81+x^2)$$

$$36x^2 = 64 \cdot 81$$

$$x^2 = \frac{64 \cdot 81}{36} = 144$$

$$x = \pm \sqrt{144} = \pm 12$$

IMPÉRATIF



$$f'(0) < 0$$

$$f'(15) = \frac{10 \cdot 15 - 8\sqrt{81+x^2}}{40 \cdot \sqrt{81+x^2}}$$

$$= \frac{150 - 8\sqrt{306}}{40 \cdot \sqrt{306}}$$

$$\approx \frac{150 - 8 \cdot 17,5}{40 \cdot 17,5}$$

$$\approx \frac{150 - 140}{40 \cdot 17,5} > 0$$

R accoste à 3 km de B.

