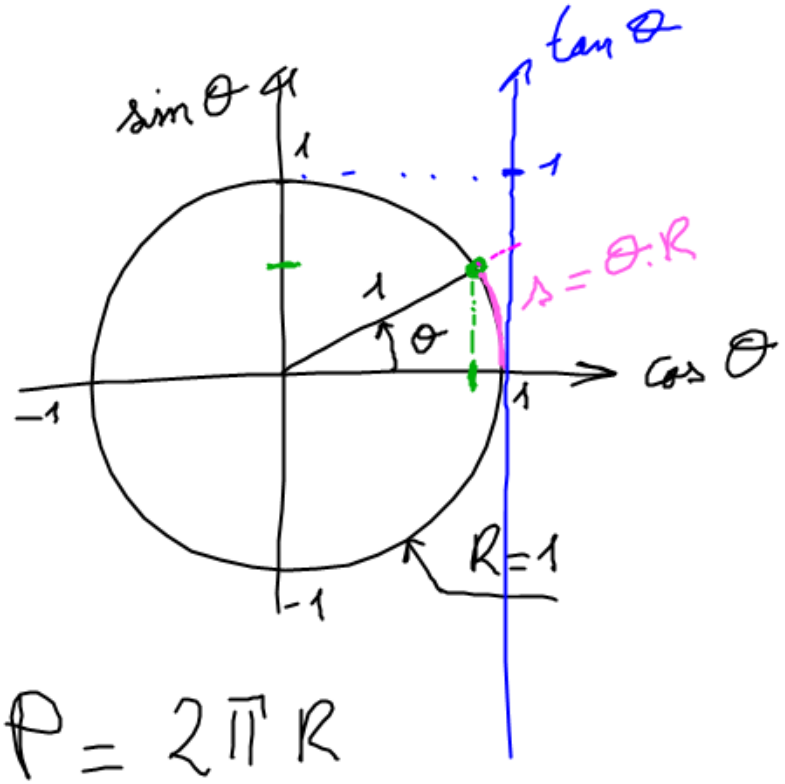
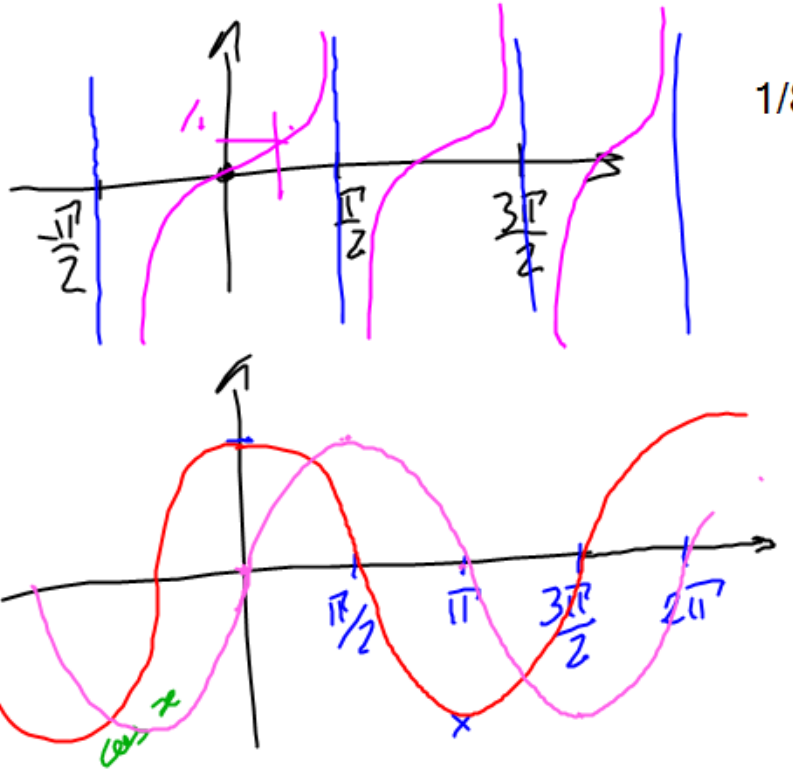


$$P = 2\pi R$$

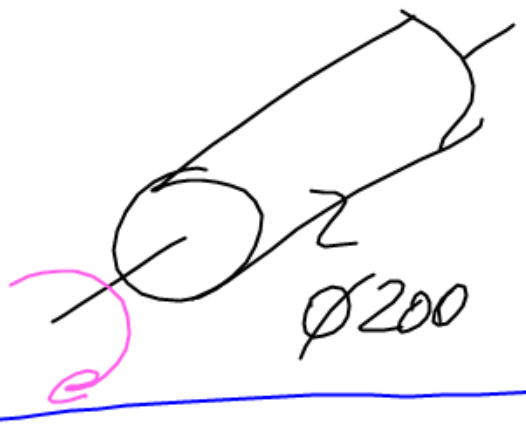
$$S = \pi R^2$$

m^2 m



$$V = \omega \cdot R$$

m/s rad/s m

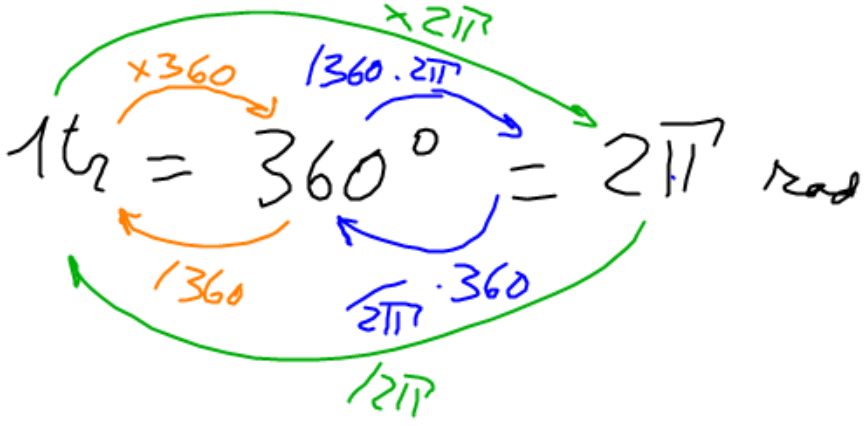


35 m de câble.

$s = \theta . R$

$\frac{35}{\frac{D}{2}} = \frac{35.2}{D}$

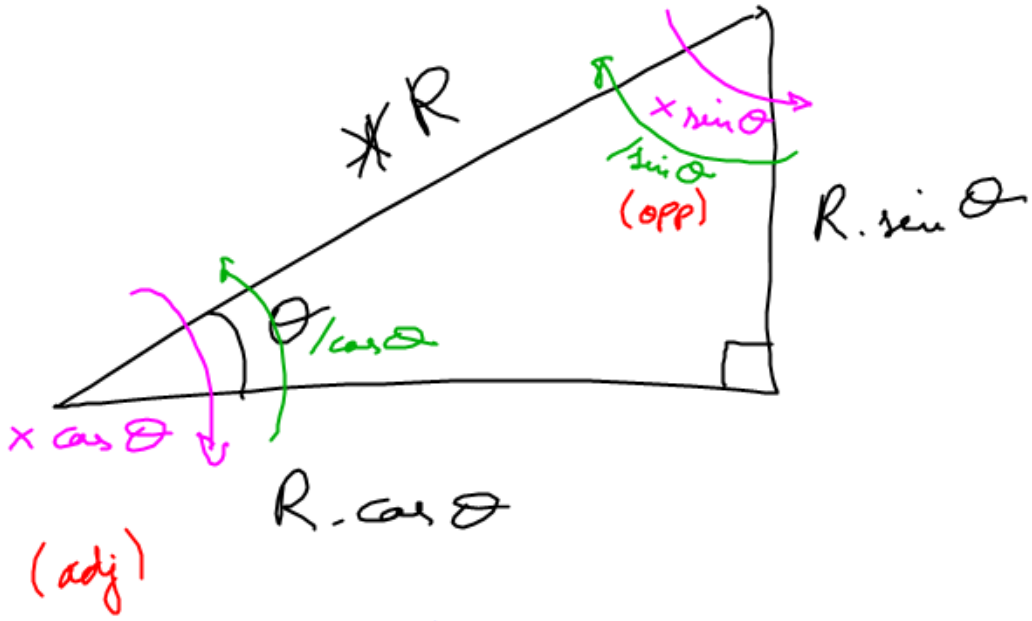
$\theta = \frac{s}{R}$



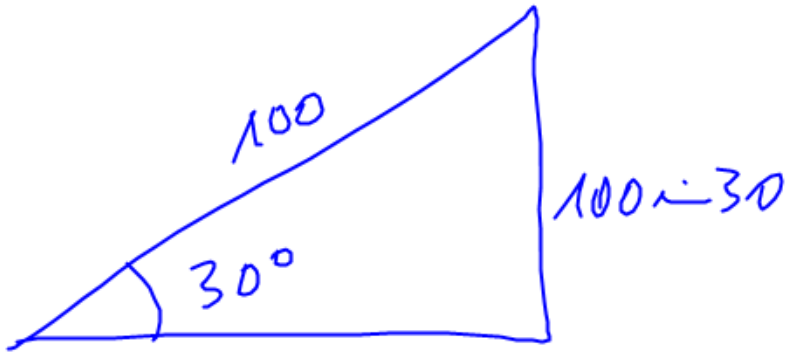
$\theta = \frac{35.2}{D}$

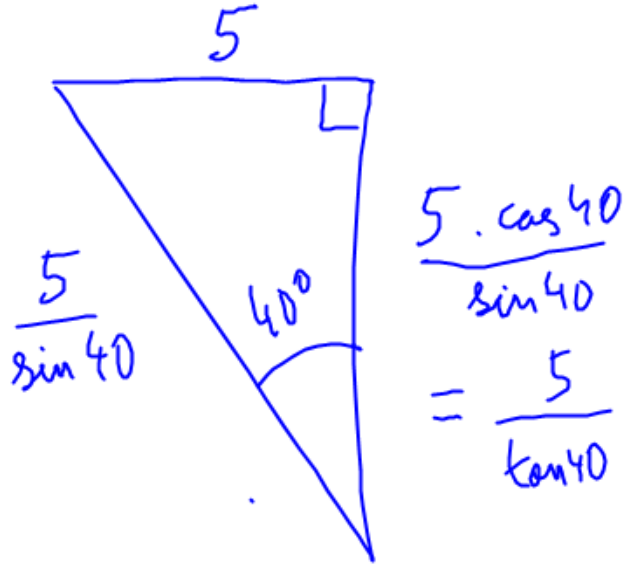
$\theta = \frac{35.2}{200.10^{-3}} \simeq 350 \text{ rad}$

$\simeq 55,7 \text{ tr}$

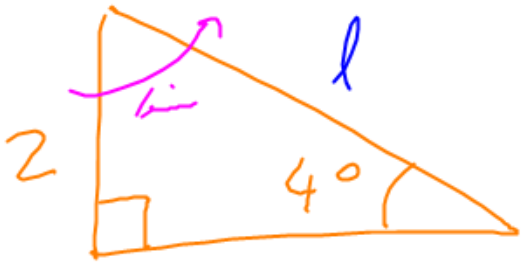


$$\tan\theta = \frac{\sin\theta}{\cos\theta}$$

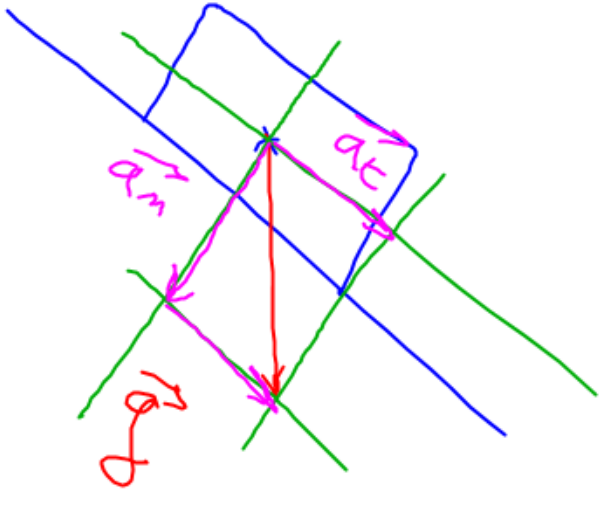


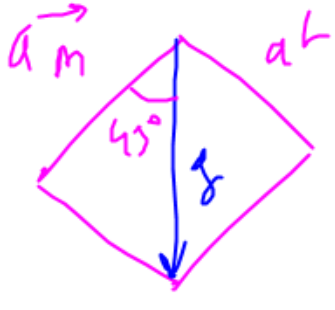


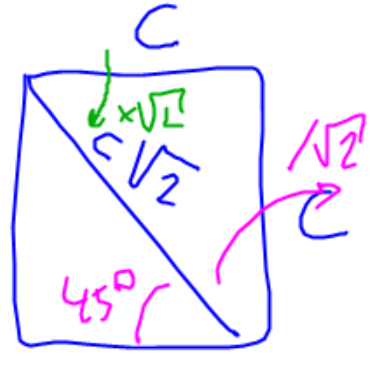
2)

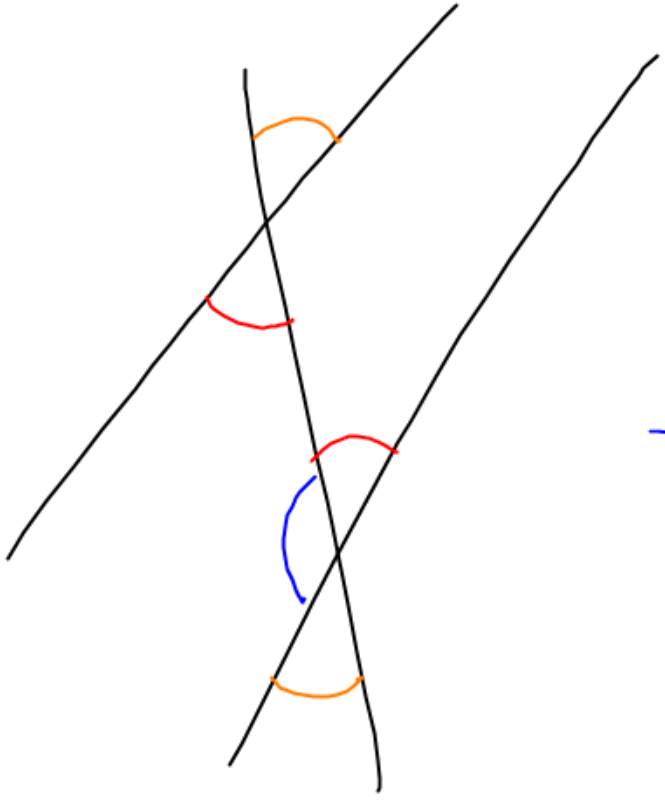


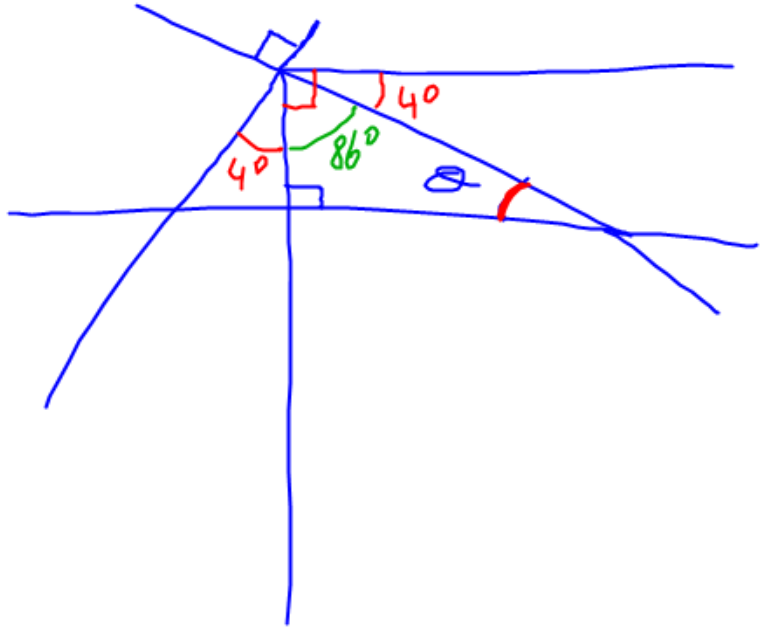
$$l = \frac{2}{\sin 4} \approx 28{,}7\ m$$



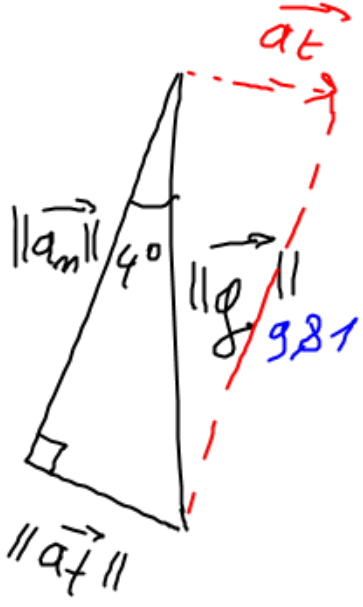




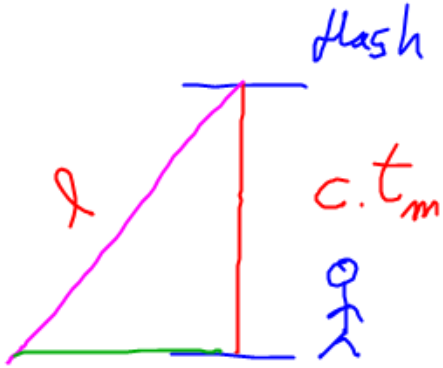



40°
40°
86°
θ

3)



$$\|\vec{a_n}\| = a_n = 9{,}81 \cdot \cos 4$$
$$\approx 9{,}79 \text{ m/s}^2$$
$$\|\vec{a_t}\| = a_t = 9{,}81 \cdot \sin 4$$
$$\approx 0{,}684 \text{ m/s}^2$$

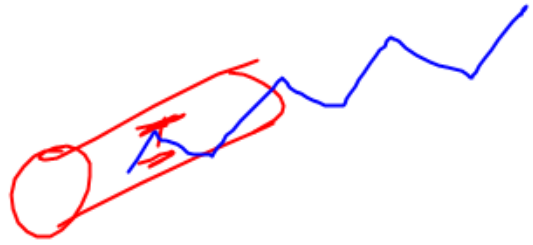


$$l_{max}^2 = c^2 . t_f^2$$

$$l^2 = v^2 . t_f^2 + c^2 . t_m^2$$

$$c^2 . t_f^2 = v^2 . t_f^2 + c^2 . t_m^2$$

$$t_f = f(t_m, v, c)$$



$$\sqrt{a.b} = \sqrt{a} . \sqrt{b}$$

$$c^2 t_f^2 - v^2 t_f^2 = c^2 t_m^2$$

$$t_f^2 (c^2 - v^2) = c^2 . t_m^2$$

$$t_f^2 = \frac{c^2 . t_m^2}{c^2 - v^2}$$

$$t_f = \sqrt{\frac{c^2 t_m^2}{c^2 - v^2}}$$

$$t_f = \sqrt{\frac{c^2}{c^2 - v^2}} . t_m$$

$t_f = \sqrt{\frac{c^2}{c^2 - v^2}} \cdot t_m$

$$\sqrt{\frac{c^2}{c^2 - v^2}} = \sqrt{\frac{1}{\frac{c^2 - v^2}{c^2}}} = \sqrt{\frac{1}{\frac{c^2}{c^2} - \frac{v^2}{c^2}}}$$

$$= \sqrt{\frac{1}{1 - \frac{v^2}{c^2}}} = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$t_f = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}} \cdot t_m$$