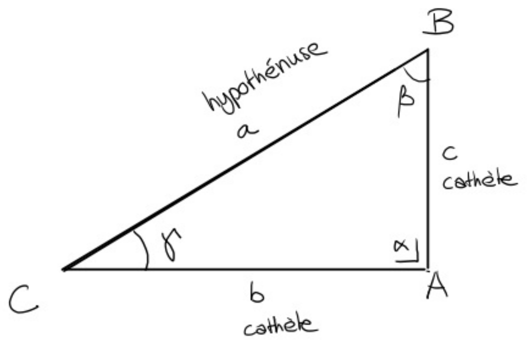
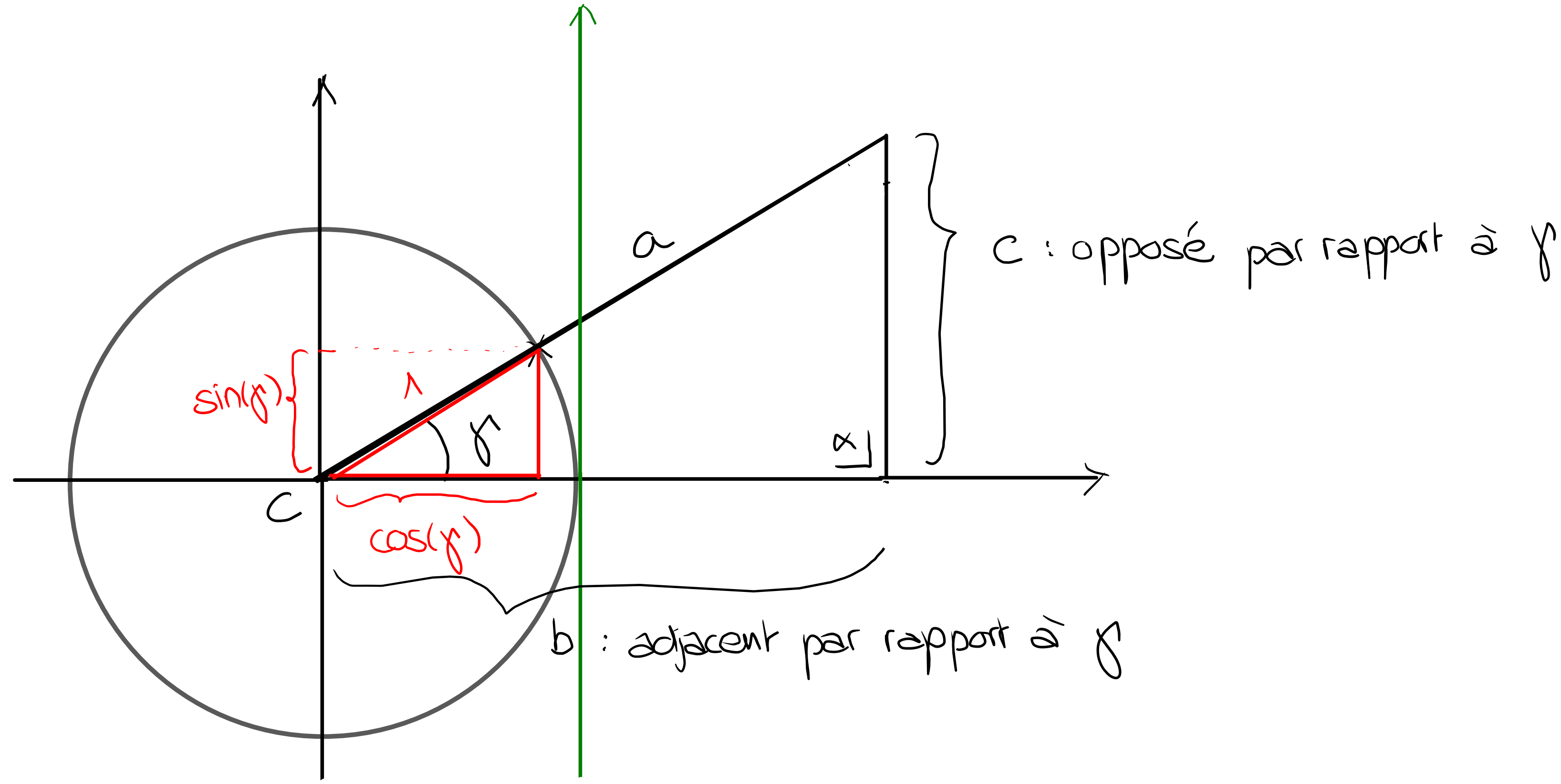
Triangle rectangle





Thalès

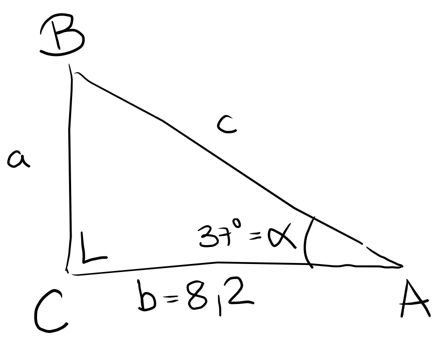
$$\frac{\cos(\gamma)}{1} = \frac{b}{a} = \text{"}\frac{adj}{hyp}\text{"} \iff \boxed{\cos(\gamma) = \text{"}\frac{adj}{hyp}\text{"}}$$

Thalès

$$\frac{\sin(\gamma)}{1} = \frac{opp}{hyp} \iff \boxed{\sin(\gamma) = \text{"}\frac{opp}{hyp}\text{"}}$$

$$\Rightarrow \boxed{\tan(\gamma)} = \frac{\sin(\gamma)}{\cos(\gamma)} = \frac{\frac{opp}{hyp}}{\frac{adj}{hyp}} = \boxed{\text{"}\frac{opp}{adj}\text{"}}$$

Exemples : a) Résoudre le triangle rectangle ABC rectangle en C connaissant le côté $b = 8,2$ et $\alpha = 37°$



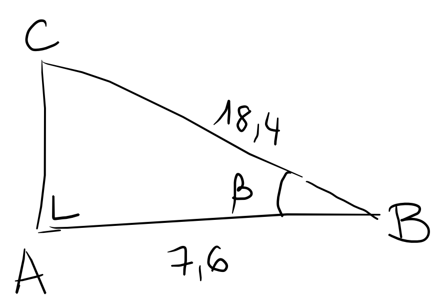
$$\beta = 90 - 37 = 53°$$

$$\cos(37°) = \frac{8,2}{c} \iff c = \frac{8,2}{\cos(37°)} \cong 10,27 \text{ u}$$

Pythagore : $10,27^2 = 8,2^2 + a^2$

$$\iff a = \sqrt{10,27^2 - 8,2^2} \cong 6,18 \text{ u}$$

b) Résoudre le Δ ABC rectangle en A connaissant $c = 7,6$ et $a = 18,4$



Pythagore : $b = \sqrt{18,4^2 - 7,6^2} \cong 16,76$

$$\cos(\beta) = \frac{7,6}{18,4} \iff \beta = \cos^{-1}\left(\frac{7,6}{18,4}\right) \cong 65,6°$$

$$\Rightarrow \alpha \cong 90° - 65,6° \cong 24,4°$$