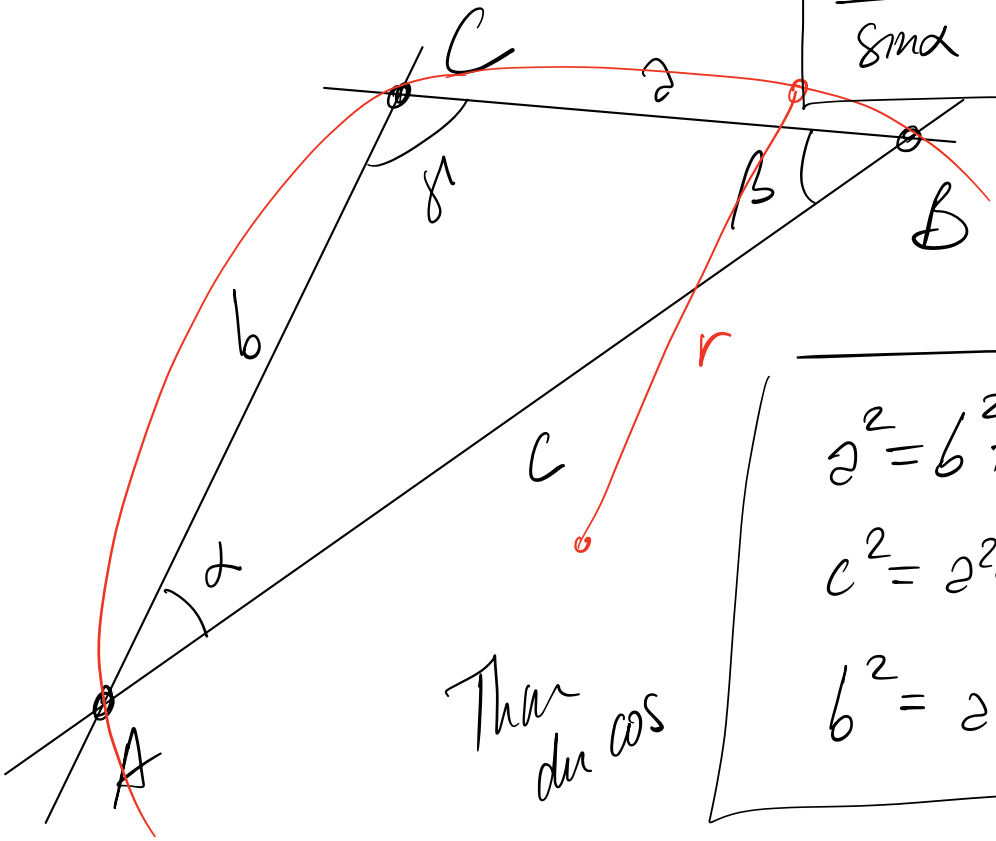


$$\frac{a}{\sin\alpha} = \frac{b}{\sin\beta} = \frac{c}{\sin\gamma} = 2r$$

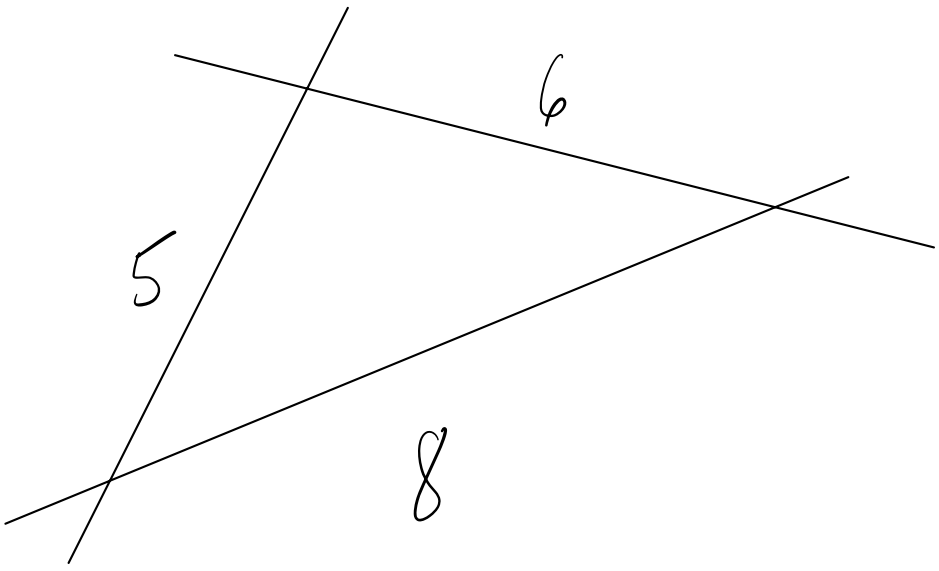
Thm du sin

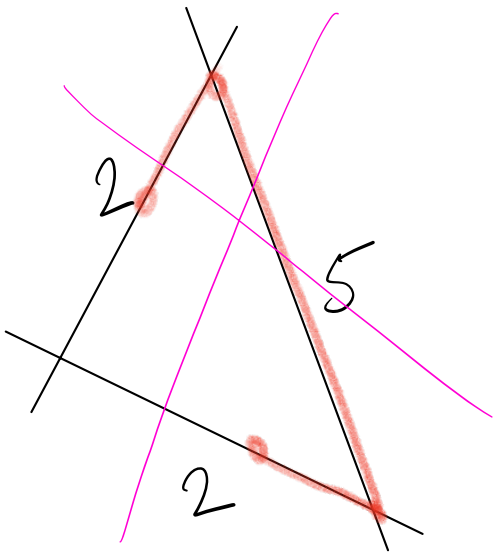
Thm du cos

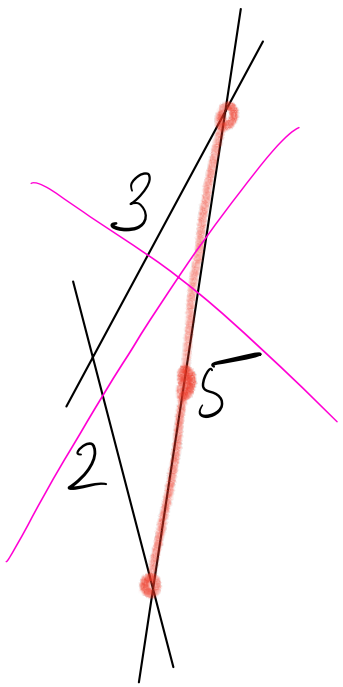
$$a^2 = b^2 + c^2 - 2bc\cos\alpha$$

$$c^2 = a^2 + b^2 - 2ab\cos\gamma$$

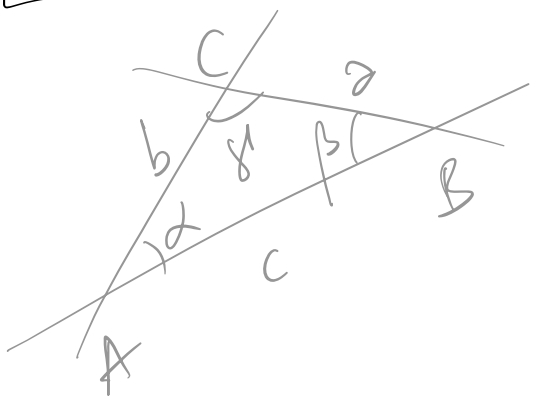
$$b^2 = a^2 + c^2 - 2ac\cos\beta$$

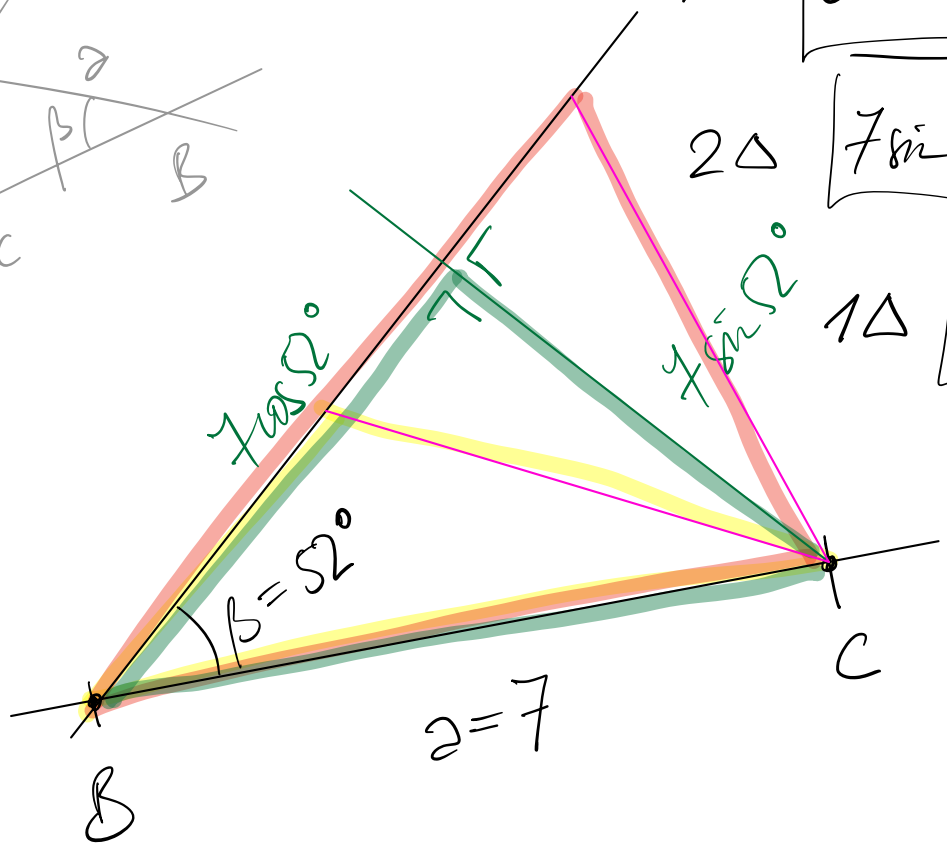

6
5
8


2
5
2


3
5
2

4.4.1





1△ $b = 7 \cdot \sin(52)$

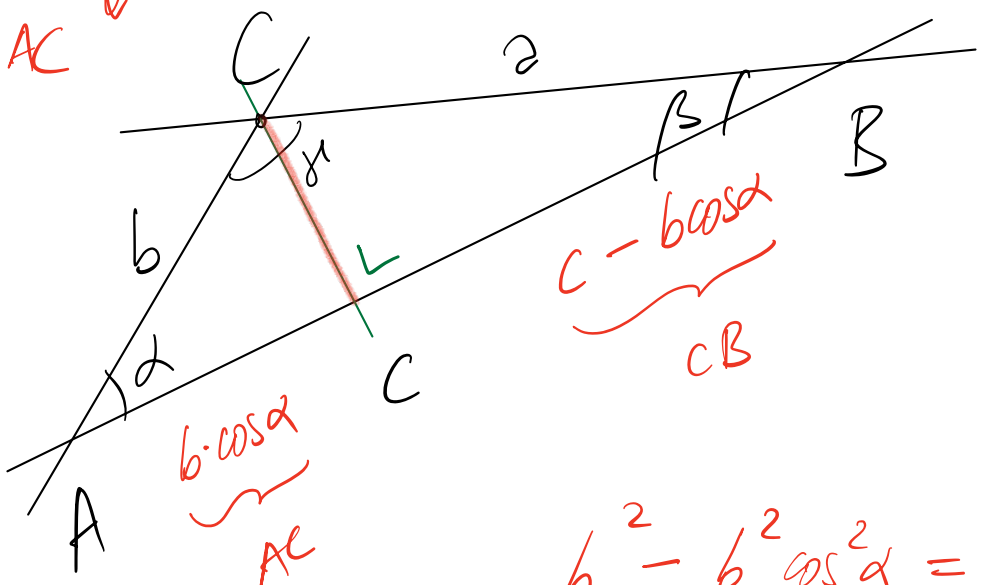
2△ $7 \sin 52° < b < 7$

1△ $b \geq 7$

Thm du cosinus

$\cos\alpha = \frac{AC}{b}$ $\downarrow \cdot b$

$b\cos\alpha = AC$

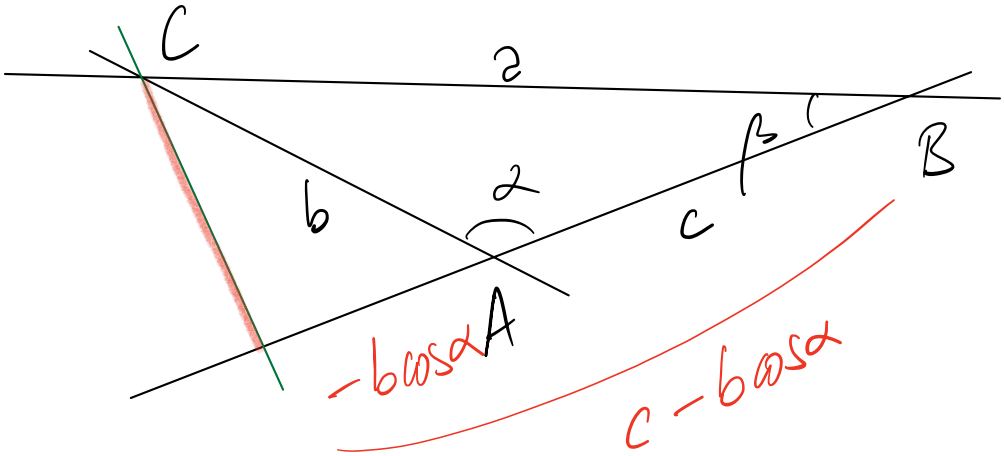


$$b^2 - b^2\cos^2\alpha = a^2 - (c - b\cos\alpha)^2$$

$$b^2 - b^2\cos^2\alpha = a^2 - (c^2 - 2bc\cos\alpha + b^2\cos^2\alpha)$$

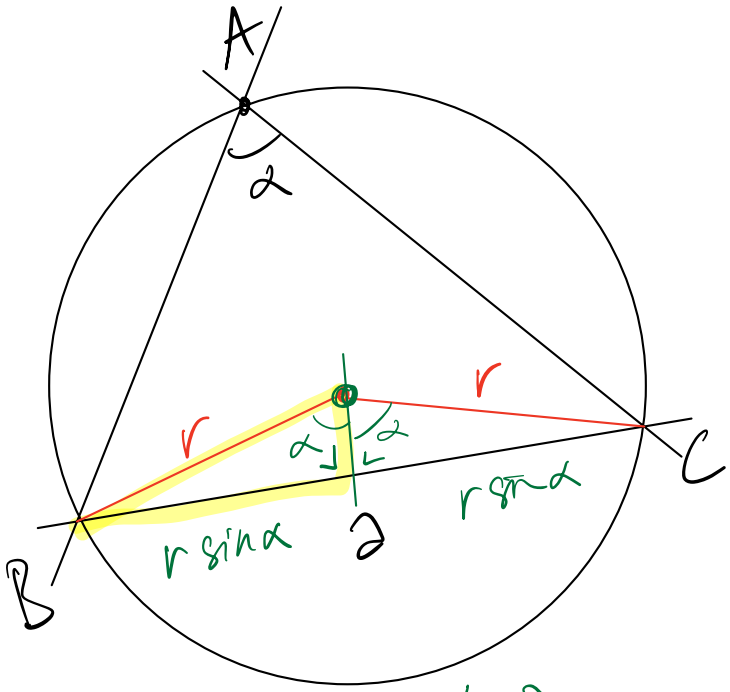
$$b^2 - b^2\cos^2\alpha = a^2 - c^2 + 2bc\cos\alpha - b^2\cos^2\alpha$$

$$b^2 + c^2 - 2bc\cos\alpha = a^2$$ CQFD



Même égalité $\longrightarrow$ $b^2 - (-b\cos\alpha)^2 = a^2 - (c - b\cos\alpha)^2$

Thm du sinus



$$a = 2r \sin\alpha$$

$$\frac{a}{\sin\alpha} = 2r$$

$$\sin\alpha = \frac{1/2 \cdot a}{r}$$