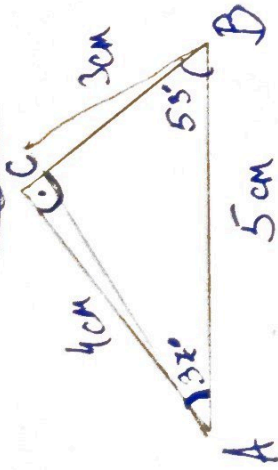
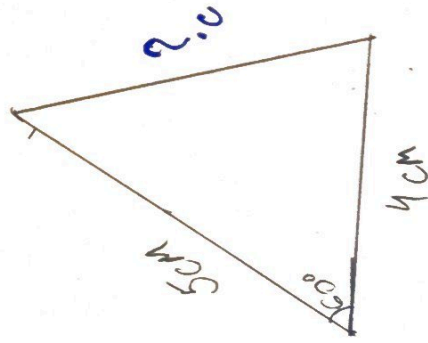


From Pythagoras to Law of Cosines

$$\begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 3^2 + 4^2 \\ c^2 &= 9 + 16 \\ c &= \sqrt{25} \\ c &= 5 \end{aligned}$$



	0°	30°	45°	60°	90°
Sin	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	Not defined
Radians	0	$\pi/6$	$\pi/4$	$\pi/3$	$\pi/2$



$$c^2 = a^2 + b^2 - 2ab \cdot \cos(c)$$

$$\cos(60^\circ) = \frac{1}{2}$$

$$c^2 = 5^2 + 4^2 - 2 \cdot 5 \cdot 4 \cdot \frac{1}{2}$$

$$c^2 = 25 + 16 - 20$$

$$c = \sqrt{21}$$

$$c = 4.6 \text{ cm}$$

$$\cos AB = \frac{4}{5}$$

$$\begin{aligned} \cos^{-1}(4/5) &= .64 \text{ radians} \\ \cos^{-1}(4/5) &\approx 37 \text{ degrees} \end{aligned}$$