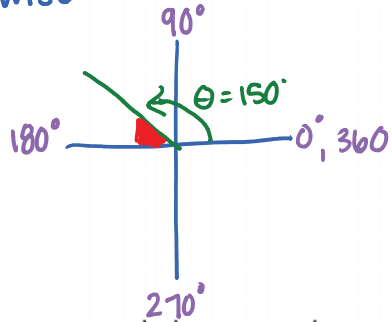


Trigonometry Review

Name _____

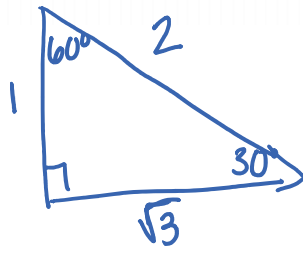
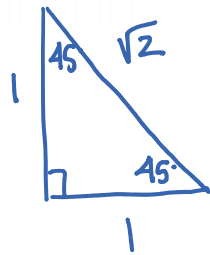
An angle is in **standard position** when its vertex is at the origin, its initial arm is on the positive x-axis. The angle of rotation is counter-clockwise

ex. $\theta = 150^\circ$

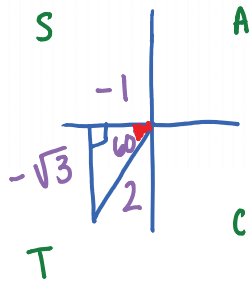


The reference angle is the acute angle between the terminal arm and the x-axis $\theta_r = 180 - 150 = 30^\circ$

You can determine exact trig ratios for angles of 30° , 45° , and 60° using special triangles



Ex. Find the exact value of $\cos 240^\circ$

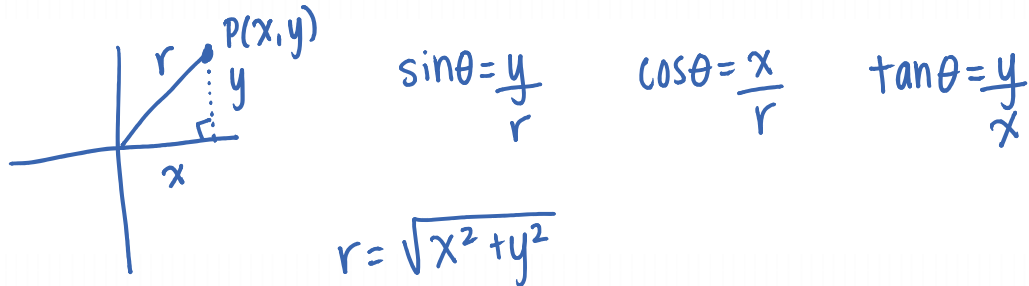


$\theta_r = 240^\circ - 180^\circ = 60^\circ$

$\cos 240^\circ = -\frac{1}{2}$

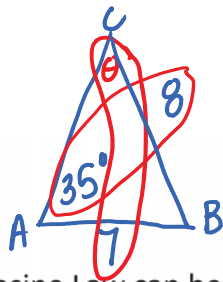
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For a point $P(x, y)$ on the terminal arm of an angle in standard position



The Sine Law can be used to find the missing angle or side for any triangle where you know an angle and the side opposite

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} \quad \text{or} \quad \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$



Find $\angle C$:

$$\frac{\sin C}{7} = \frac{\sin 35^\circ}{8}$$

$$\frac{8 \sin C}{8} = \frac{7 \sin 35^\circ}{8}$$

$$\sin C = \frac{7 \sin 35^\circ}{8}$$

$$\angle C = \sin^{-1}(0.5018\dots)$$

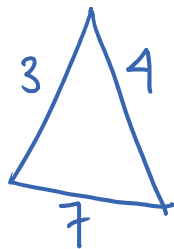
$$\boxed{\angle C = 30^\circ}$$

The Cosine Law can be used to find a missing angle or side for any triangle where you know all 3 sides or 2 sides and the contained angle.

$$\underline{a^2} = b^2 + c^2 - 2bc \cos \underline{A}$$

$$\underline{b^2} = a^2 + c^2 - 2ac \cos \underline{B}$$

$$\underline{c^2} = b^2 + a^2 - 2ba \cos \underline{C}$$



or

