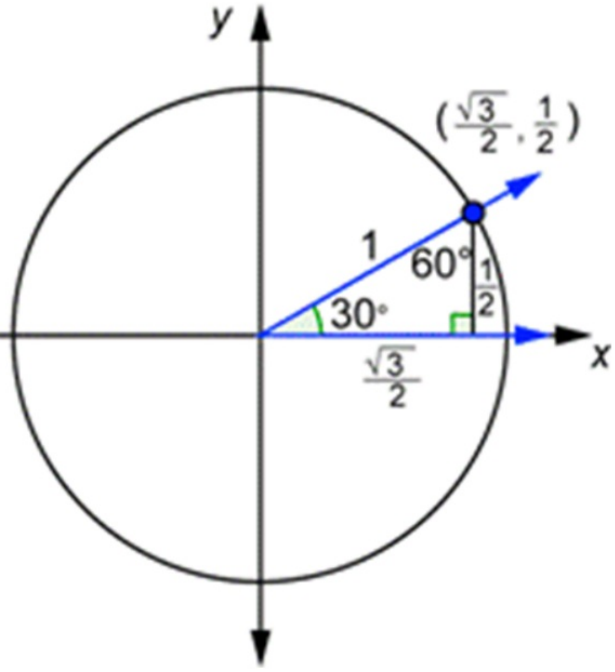
Sine - Cosine - Tangent

$(x, y) = (\cos\theta, \sin\theta)$

$\cos 30^\circ = \frac{\sqrt{3}}{2} \left(\frac{A}{H}\right)$

$\sin 30^\circ = \left(\frac{1}{2}\right) \left(\frac{O}{H}\right)$

$\tan\theta = \left(\frac{O}{A}\right)$



$\tan 30^\circ = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}}$

$\tan 30 = \frac{1}{2} \cdot \frac{2}{\sqrt{3}} \frac{\sqrt{3}}{\sqrt{3}} \frac{1}{\sqrt{3}} = \boxed{\frac{\sqrt{3}}{3}}$

Sine - Cosine - Tangent

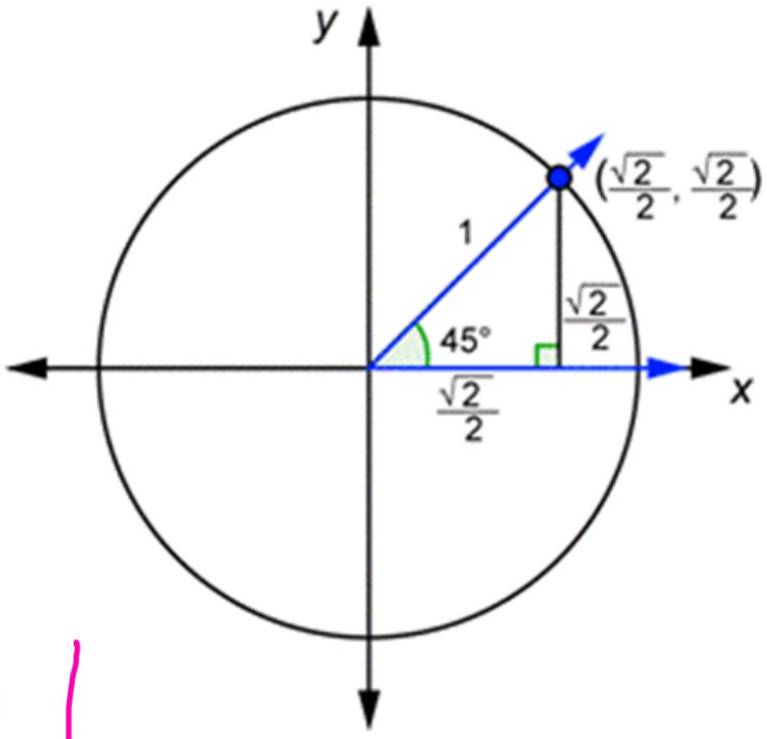
$(x, y) = (\cos\theta, \sin\theta)$

$\cos 45 = \frac{\sqrt{2}}{2}$

$\sin 45 = \frac{\sqrt{2}}{2}$

$\tan\theta = \frac{O}{A}$

$\tan 45 = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$



$$\cos 60 = \frac{1}{2}$$

$$\sin 60 = \frac{\sqrt{3}}{2}$$

$$\tan 60 = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \frac{\sqrt{3}}{\cancel{2}} \cdot \frac{\cancel{2}}{1} = \boxed{\sqrt{3}}$$

Signs in Quadrants

What is the sign of **tanθ** in each quadrant?