

$y = \sin \theta$  : The Sine Calculator

To convert, remember that  $2\pi \text{ rad} = 360^\circ$ .  
 So,  $30^\circ = \frac{\pi}{6} \text{ rad}$ . Just convert up by  $\frac{\pi}{6}$   
 and reduce fractions.

Using Identities to find  $\sin 60^\circ$ .

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\sin(60) = \cos(90 - 60)$$

$$\sin 60 + \cos^2 60 = 1 \quad \text{OR}$$

$$\sin(60) = \cos(30)$$

$$\sin^2 60 + (\frac{1}{2})^2 = 1$$

$$\cos^2 30 + \sin^2 30 = 1$$

$$\sin^2 60 + \frac{1}{4} = 1$$

$$\cos^2(30) + (\frac{1}{2})^2 = 1$$

$$\sin^2 60 = \frac{3}{4}$$

$$\cos^2(30) + \frac{1}{4} = 1$$

$$\sin 60 = \sqrt{\frac{3}{4}}$$

$$\cos^2(30) = \frac{3}{4}$$

$$\cos(30) = \sqrt{\frac{3}{4}}$$

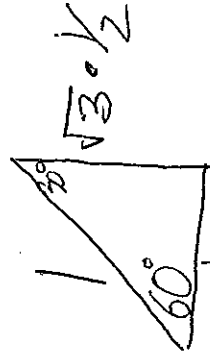
$$\sin 60 = \frac{\sqrt{3}}{2}$$

$$\cos(30) = \frac{\sqrt{3}}{2}$$

OR

But

$$\cos(30) = \sin(60)$$



Using Special Right Triangles

$$\sin 60 = \frac{\sqrt{3} \cdot \frac{1}{2}}{1} = \frac{\sqrt{3}}{2}$$