

SECTION#6.3

TRIG FUNCTIONS OF ANGLES

$$\sin = \frac{y}{x}$$

$$\cos = \frac{x}{r}$$

$$\tan = \frac{y}{x}$$

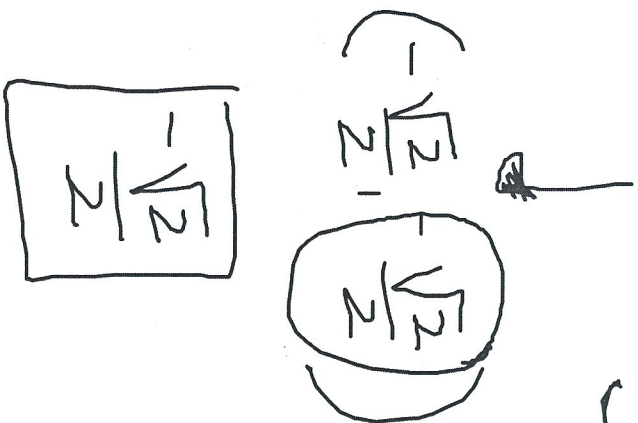
$$\csc = \frac{1}{y}$$

$$\sec = \frac{1}{x}$$

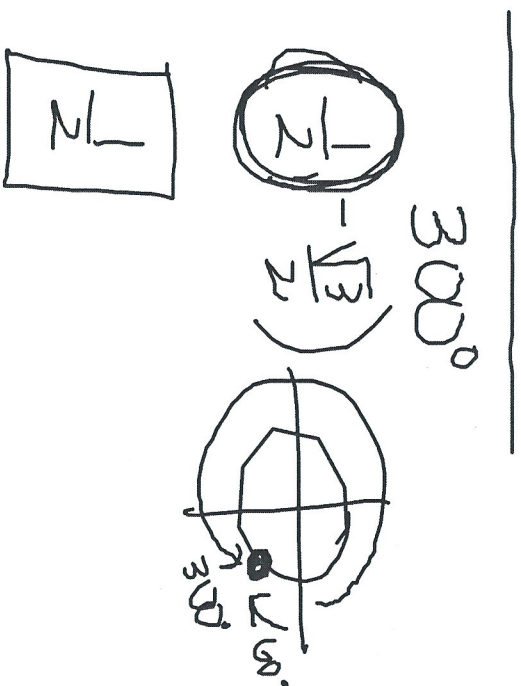
$$\cot = \frac{x}{y}$$

EXAMPLE: FIND THE EXACT VALUE OF THE TRIG FUNCTION.

(a) $\sin 225^\circ = y$



(b) $\cos(-60^\circ) = x$
 $+360^\circ$



$$(c) \sec 300^\circ = \frac{1}{x}$$

$$\left(\frac{1}{2}, -\frac{\sqrt{3}}{2} \right)$$

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

Flip

$$1 \cdot \frac{2}{1} = 2$$

$$(d) \csc \frac{5\pi}{4} = \frac{1}{y}$$

$$\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2} \right)$$

$$\frac{1}{-\frac{\sqrt{2}}{2}} = -\frac{2}{\sqrt{2}}$$

Flip

$$= \frac{-2 \cdot \sqrt{2}}{\sqrt{2} \cdot \sqrt{2}}$$

$$= \frac{-2\sqrt{2}}{2}$$

$$= -\sqrt{2}$$