

## Definitions of six Trigonometric Functions

Given:  $W(\theta) = (x, y)$ . Then:

$$\sin(\theta) = y$$

$$\tan(\theta) = \frac{y}{x}$$

$$\sec(\theta) = \frac{1}{x}$$

$$\cos(\theta) = x$$

$$\cot(\theta) = \frac{x}{y}$$

$$\csc(\theta) = \frac{1}{y}$$

Example:

$$W\left(\frac{\pi}{3}\right) = \left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$$

Therefore:

$$\sin\left(\frac{\pi}{3}\right) = \frac{\sqrt{3}}{2}$$

$$\cos\left(\frac{\pi}{3}\right) = \frac{1}{2}$$

$$\tan\left(\frac{\pi}{3}\right) = \sqrt{3}$$

$$\cot\left(\frac{\pi}{3}\right) = \frac{\sqrt{3}}{3}$$

$$\sec\left(\frac{\pi}{3}\right) = 2$$

$$\csc\left(\frac{\pi}{3}\right) = \frac{2\sqrt{3}}{3}$$

## NO CALCULATORS

1.  $\sin\left(\frac{\pi}{3}\right) =$

2.  $\cos\left(\frac{\pi}{2}\right) =$

3.  $\tan\left(\frac{\pi}{2}\right) =$

4.  $\cos\left(\frac{\pi}{3}\right) =$

5.  $\sin(0) =$

6.  $\tan(\pi) =$

7.  $\tan\left(\frac{\pi}{6}\right) =$

8.  $\sin\left(\frac{\pi}{4}\right) =$

9.  $\cos(0) =$

10.  $\tan\left(\frac{\pi}{3}\right) =$