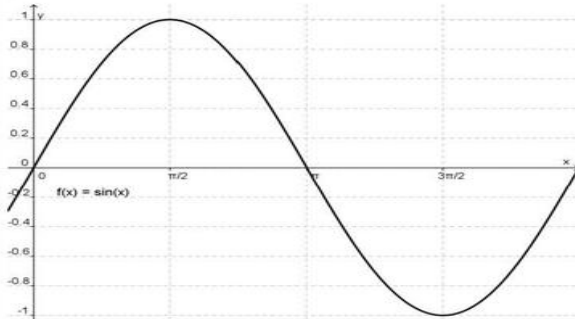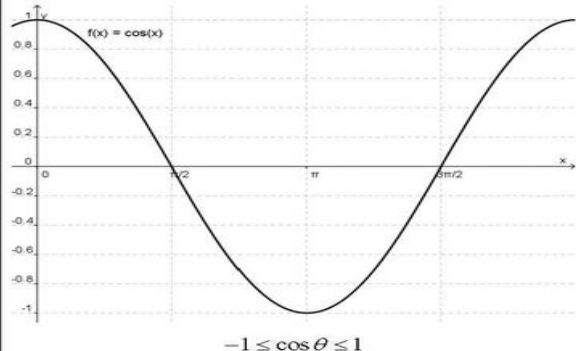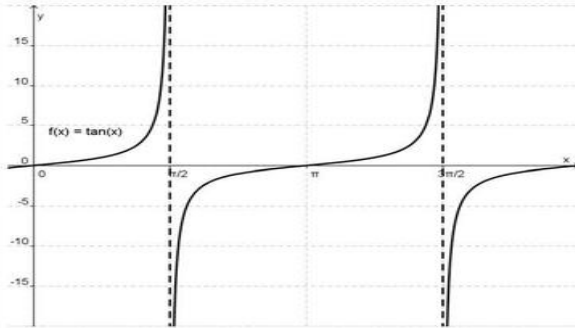## Graphs

(1) Sine

$$-1 \le \sin \theta \le 1$$

(2) Cosine

$$-1 \le \cos \theta \le 1$$

(3) Tangent

$$-\infty \le \tan \theta \le \infty$$

General Form:

$$y = a \sin b(x \pm \theta) + c$$
$$y = a \cos b(x \pm \theta) + c$$
$$y = a \tan b(x \pm \theta) + c$$

Where a affects the amplitude,

b affects the frequency (no. of cycles),

c shifts the graph up or down,

θ shifts the graph left or right (phase shift).

For tangent graph, there are 2 asymptotes for $0 \le x \le 2\pi$.

Conversion between angles in degrees and radians

$$\pi\ rad = 180°$$

$x°$	60°	120°	180°	240°	300°	360°
$x\ rad$	$\dfrac{\pi}{3}$	$\dfrac{2\pi}{3}$	$\dfrac{3\pi}{3}$	$\dfrac{4\pi}{3}$	$\dfrac{5\pi}{3}$	$\dfrac{6\pi}{3}$

$x°$	45°	90°	135°	180°	225°	270°	315°	360°
$x\ rad$	$\dfrac{\pi}{4}$	$\dfrac{2\pi}{4}$	$\dfrac{3\pi}{4}$	$\dfrac{4\pi}{4}$	$\dfrac{5\pi}{4}$	$\dfrac{6\pi}{4}$	$\dfrac{7\pi}{4}$	$\dfrac{8\pi}{4}$

$x°$	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°	360°
$x\ rad$	$\dfrac{\pi}{6}$	$\dfrac{2\pi}{6}$	$\dfrac{3\pi}{6}$	$\dfrac{4\pi}{6}$	$\dfrac{5\pi}{6}$	$\dfrac{6\pi}{6}$	$\dfrac{7\pi}{6}$	$\dfrac{8\pi}{6}$	$\dfrac{9\pi}{6}$	$\dfrac{10\pi}{6}$	$\dfrac{11\pi}{6}$	$\dfrac{12\pi}{6}$