trigonometry unit circle

key terms:

exact value:

Exact value is where you cannot estimate the value you must be precise, eg; you can't estimate something as being around about 5 centimetres; no you need an exact value such as 5.62. Fingerspell. Exact value.

unit circle:

A unit circle is **a circle on the Cartesian Plane that has a radius of 1 unit and is cantered at the origin (0, 0)**.

exact value table:

Angle (θ)		$\sin(\theta)$	$\cos(\theta)$	$\tan(\theta)$
Degrees	Radians			
$0°$	0	0	1	0
$30°$	$\frac{\pi}{6}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{3}}$
$45°$	$\frac{\pi}{4}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{\sqrt{2}}$	1
$60°$	$\frac{\pi}{3}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	$\sqrt{3}$
$90°$	$\frac{\pi}{2}$	1	0	Not Defined

descriptions:

you may notice the radian value and degree value on the left hand side of the diagram, and here is the equation

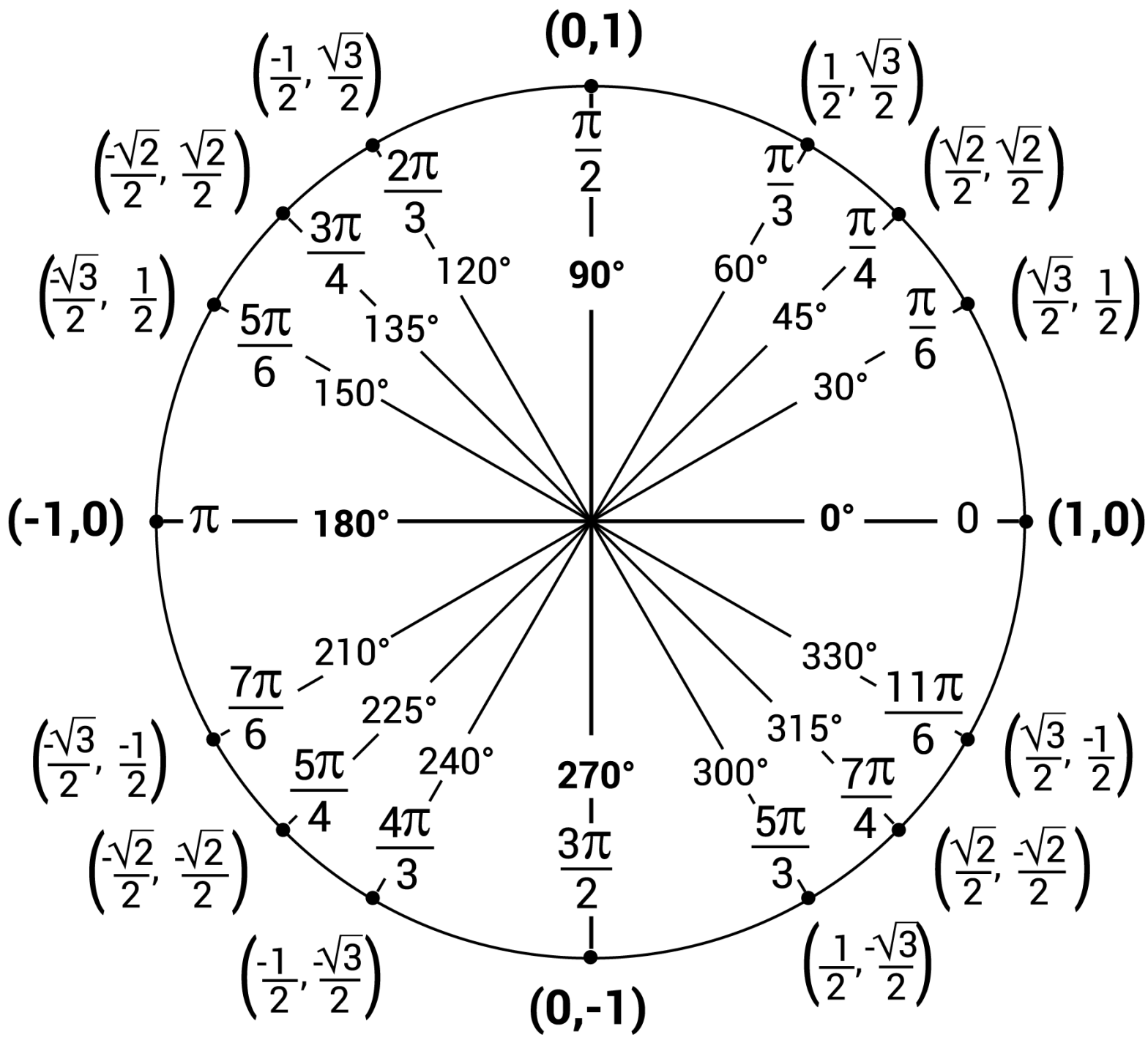
To convert an angle from radians to degrees, we multiply it by 180°/π. To convert an angle from degrees to radians, we multiply it by π/180°.

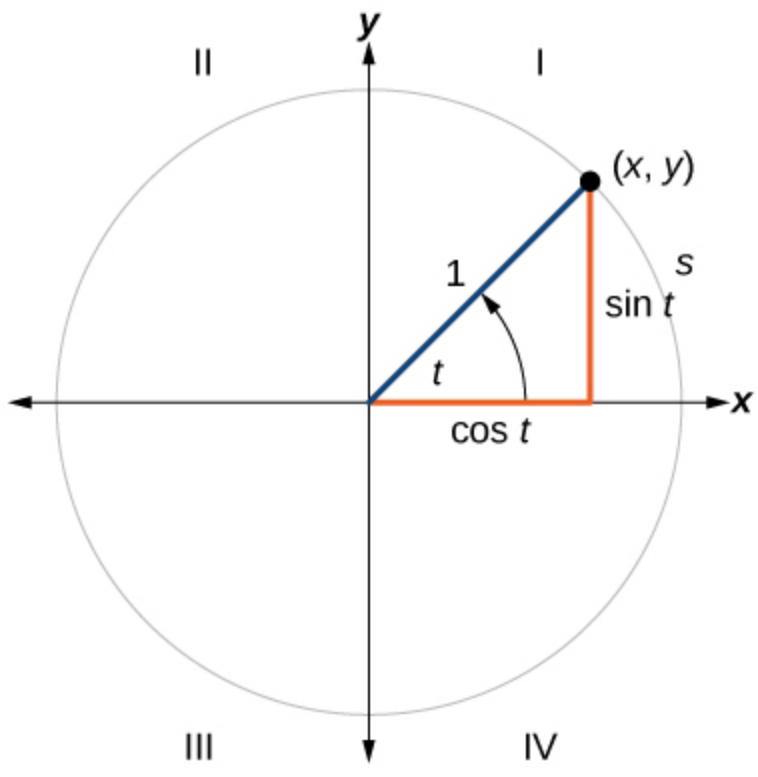
which is,

degree x Π/180 = radian

radian x 180/Π = degree

unit circles





descriptions:

in the diagram,

x = cos, y = sin, and (x, y) is the coordinate of the point

Using the unit circle, **the sine of an angle t equals the y-value of the endpoint on the unit circle of an arc of length t whereas the cosine of an angle t equals the x-value of the endpoint**.