

Two blue-haired characters with large, spiky hair are running towards the right. They are wearing red athletic suits. The character in the foreground has a white circular patch on their chest with the number '2'. The background is a light blue and white gradient with horizontal motion lines at the bottom.

September 17

SWBAT:

Discover and apply
trig identities

Cofunction
identities

$$\tan(\theta) = \cot(90^\circ - \theta)$$

$$\cot\left(\frac{\pi}{2} - \theta\right)$$

$$\cot(\theta) = \tan(90^\circ - \theta)$$

$$\tan\left(\frac{\pi}{2} - \theta\right)$$

$$\csc(\theta) = \sec(90^\circ - \theta)$$

$$\sec\left(\frac{\pi}{2} - \theta\right)$$

$$\sec(\theta) = \csc(90^\circ - \theta)$$

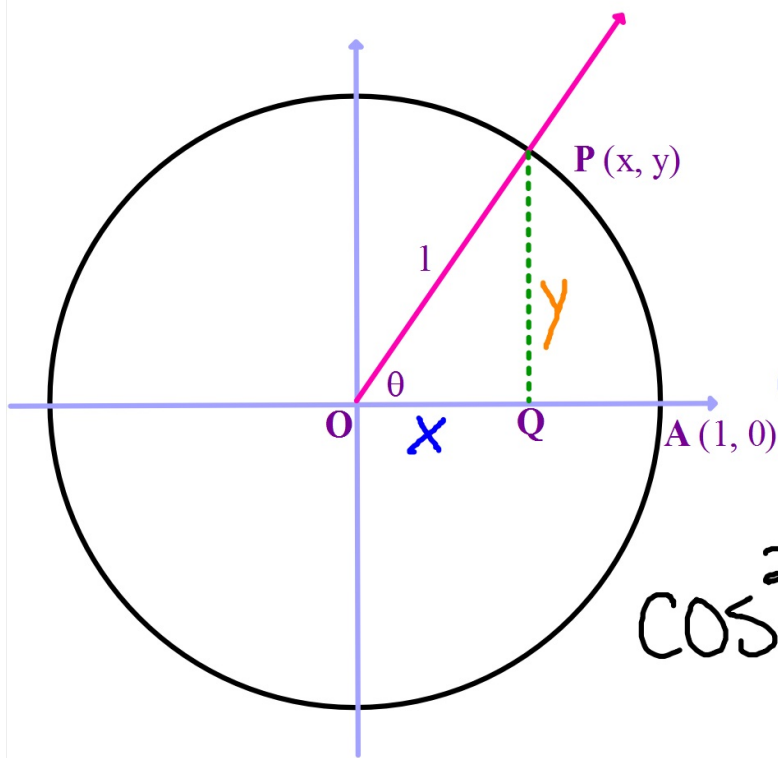
$$= \csc\left(\frac{\pi}{2} - \theta\right)$$

$$\cos(\theta) = \sin(90^\circ - \theta)$$

$$\sin\left(\frac{\pi}{2} - \theta\right)$$

$$\sin(\theta) = \cos(90^\circ - \theta)$$

$$\cos\left(\frac{\pi}{2} - \theta\right)$$



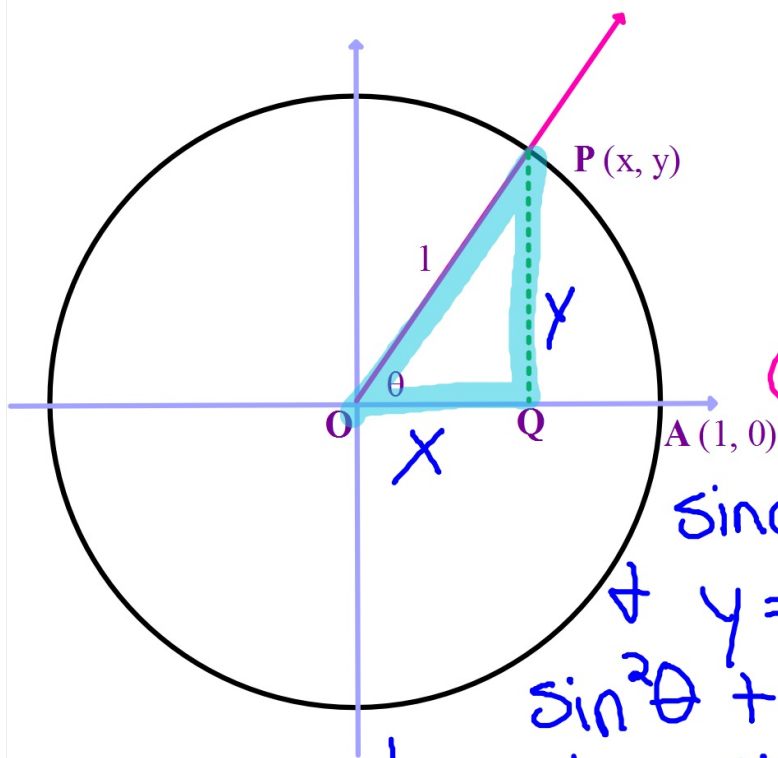
$$\sin \theta = \frac{y}{1} = y$$

$$\cos \theta = \frac{x}{1} = x$$

$$\cos^2 \theta = (\cos \theta)^2$$

θ	60°	225°	-90°	570°	π	$11\pi/6$	-8π	$5\pi/4$
$\cos \theta$	$\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	0	$-\frac{1}{2}$	-1	$\frac{\sqrt{3}}{2}$	1	$-\frac{\sqrt{2}}{2}$
$\sin \theta$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	-1	$\frac{1}{2}$	0	$-\frac{\sqrt{3}}{2}$	0	$-\frac{\sqrt{2}}{2}$
$\cos^2 \theta$	$\frac{1}{4}$	$\frac{1}{2}$	0	$\frac{3}{4}$	1	$\frac{3}{4}$	1	$\frac{1}{2}$
$\sin^2 \theta$	$\frac{3}{4}$	$\frac{3}{4}$	1	$\frac{1}{4}$	0	$\frac{1}{4}$	0	$\frac{2}{4}$
$\sin^2 \theta + \cos^2 \theta$	1	1	1	1	1	1	1	1

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



$$x^2 + y^2 = 1^2$$

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

$$\text{Since } x = \cos \theta$$

$$\text{+ } y = \sin \theta$$

$\sin^2 \theta + \cos^2 \theta = 1$ is
true by the Pythagorean
Theorem