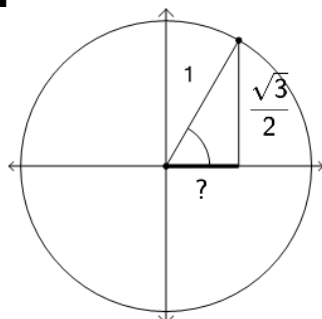# Trigonometry, Unit Circle Pythagorean Identity - Dimension to Cos/Sin Value Identity, Radians
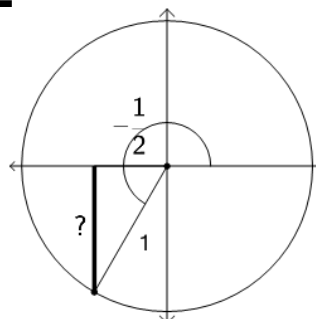
Name _____

1

What does Pythagoras tell us about the X dimension of this triangle?

A	B
$\cos\left(\frac{\pi}{3}\right) = \sqrt{1 - \left(\frac{\sqrt{3}}{2}\right)^2}$	$\cos\left(\frac{\pi}{3}\right) = \sqrt{\left(\frac{\sqrt{3}}{2}\right)^2 + 1}$

2

What does Pythagoras tell us about the Y dimension of this triangle?

A	B
$\sin^2\left(\frac{4\pi}{3}\right) = 1 - \left(-\frac{1}{2}\right)^2$	$\sin^2\left(\frac{4\pi}{3}\right) = 1 + \left(-\frac{1}{2}\right)^2$

3
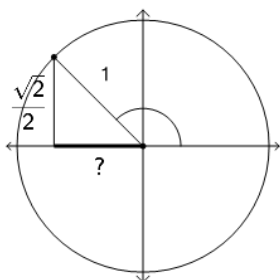
What does Pythagoras tell us about the X dimension of this triangle?

A	B
$\cos^2\left(\frac{3\pi}{4}\right) = 1 - \left(\frac{\sqrt{2}}{2}\right)^2$	$\cos^2\left(\frac{3\pi}{4}\right) = 1 + \left(\frac{\sqrt{2}}{2}\right)^2$

4
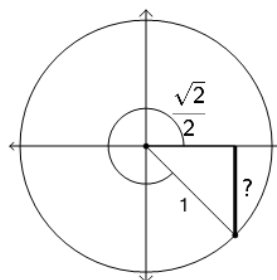
What does Pythagoras tell us about the Y dimension of this triangle?

A	B
$\sin\left(\frac{7\pi}{4}\right) = \sqrt{\left(\frac{\sqrt{2}}{2}\right)^2 + 1}$	$\sin\left(\frac{7\pi}{4}\right) = \sqrt{1 - \left(\frac{\sqrt{2}}{2}\right)^2}$

5
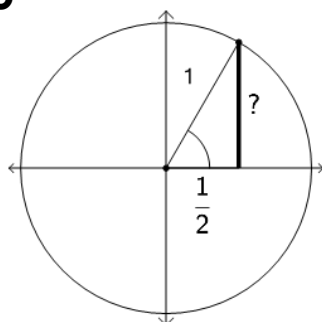
What does Pythagoras tell us about the Y dimension of this triangle?

A	B
$\sin\left(\frac{\pi}{3}\right) = \sqrt{\left(\frac{1}{2}\right)^2 + 1}$	$\sin\left(\frac{\pi}{3}\right) = \sqrt{1 - \left(\frac{1}{2}\right)^2}$

6
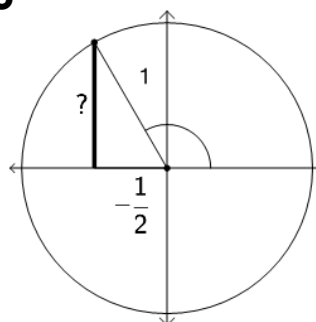
What does Pythagoras tell us about the Y dimension of this triangle?

A	B
$\sin\left(\frac{2\pi}{3}\right) = \sqrt{1 - \left(-\frac{1}{2}\right)^2}$	$\sin\left(\frac{2\pi}{3}\right) = \sqrt{\left(-\frac{1}{2}\right)^2 + 1}$

7
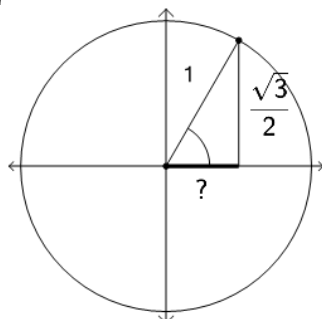
What does Pythagoras tell us about the X dimension of this triangle?

A	B
$\cos\left(\frac{\pi}{3}\right) = \sqrt{1 - \left(\frac{\sqrt{3}}{2}\right)^2}$	$\cos\left(\frac{\pi}{3}\right) = \sqrt{\left(\frac{\sqrt{3}}{2}\right)^2 + 1}$

8
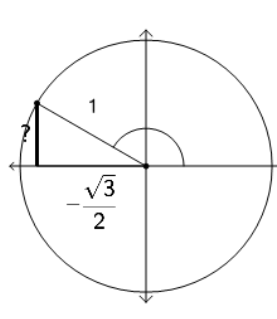
What does Pythagoras tell us about the Y dimension of this triangle?

A	B
$\sin^2\left(\frac{5\pi}{6}\right) = 1 - \left(-\frac{\sqrt{3}}{2}\right)^2$	$\sin^2\left(\frac{5\pi}{6}\right) = 1 + \left(-\frac{\sqrt{3}}{2}\right)^2$