

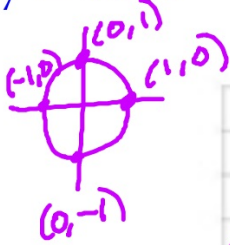
10.1 Graphing Sine and Cosine

We can use the unit circle to graph $y = \sin x$ and $y = \cos x$

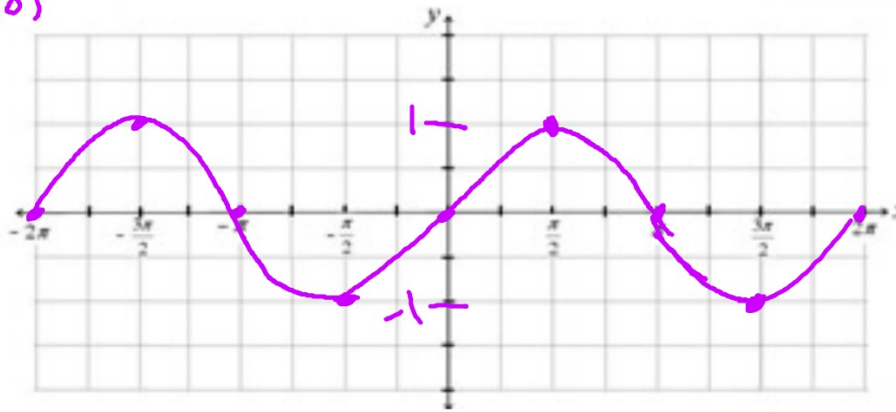
REVIEW: TUESDAY

TEST: THURSDAY

$$y = \sin x$$



Period: 2π



x	y
0	0
$\pi/2$	1
π	0
$3\pi/2$	-1
2π	0

Domain: $(-\infty, \infty)$
Range: $[-1, 1]$

Even, Odd, or Neither

Symmetrical with: origin

odd function

$$f(-x) = -f(x)$$

$$x = \frac{\pi}{6}$$

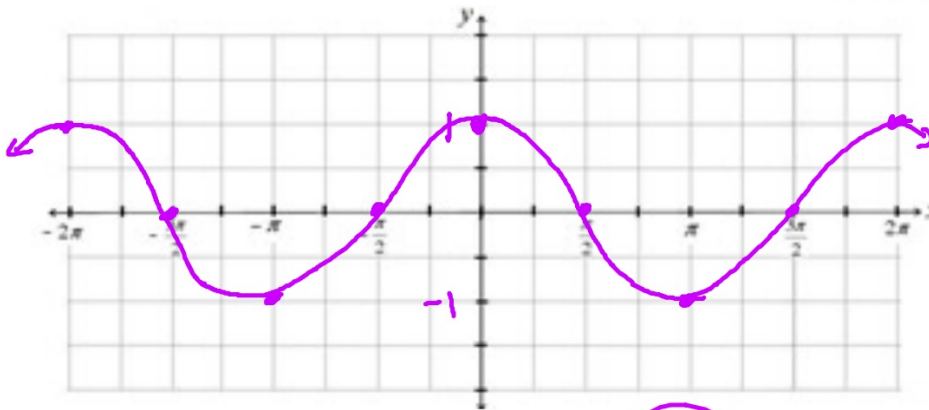
$$\sin(-x) = -\sin x$$

$$\sin\left(-\frac{\pi}{6}\right) = -\sin\frac{\pi}{6}$$

$$-\frac{1}{2} = -\frac{1}{2} \checkmark$$

$$y = \cos x$$

Period: 2π



Domain:

$(-\infty, \infty)$

Range:

$[-1, 1]$

Even, Odd, or Neither

Symmetrical with: y -axis

$$x = \frac{\pi}{4}$$

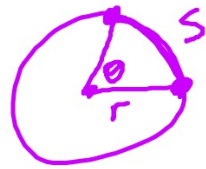
$$f(\overbrace{-x}^{\text{even}}) = f(x)$$

$$\cos(-x) = \cos x$$

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

$$\checkmark \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$$

$$S = \theta r \text{ Arc length}$$



$$A = \frac{1}{2} r^2 \theta \text{ Area}$$

