

LT: Use the Unit Circle to graph Sine and Cosine functions.

Evaluate the following using your unit circle.

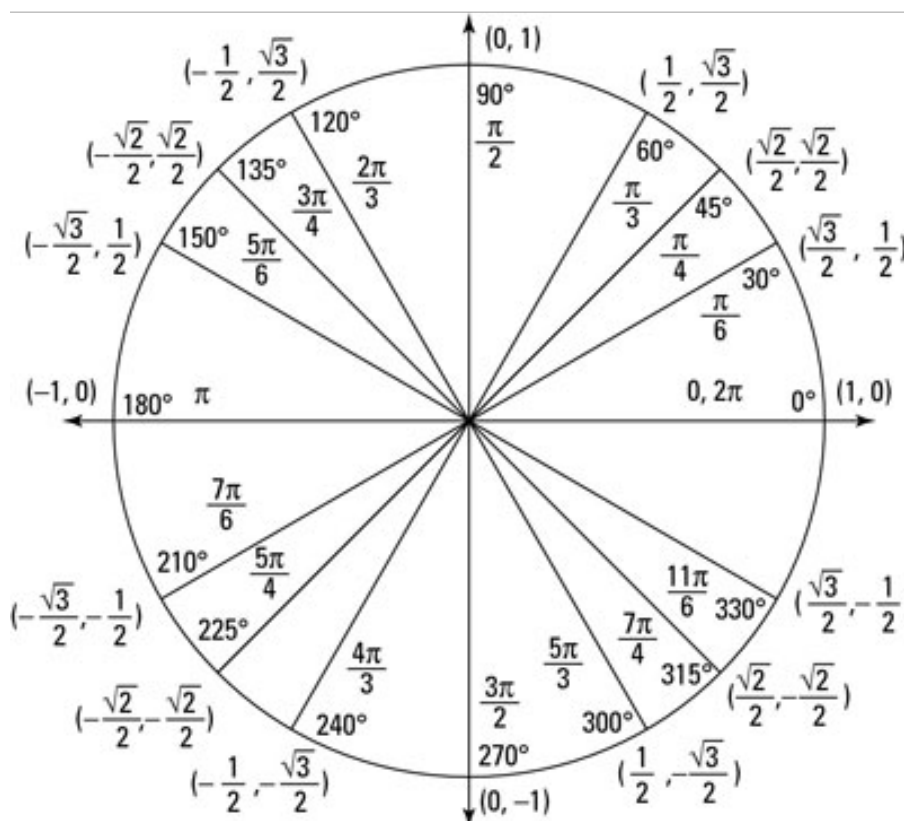
$$1) \cos \frac{5\pi}{3} = \frac{1}{2}$$

$$2) \cos \frac{\pi}{6} = \frac{\sqrt{3}}{2}$$

$$3) \sin \pi = 0$$

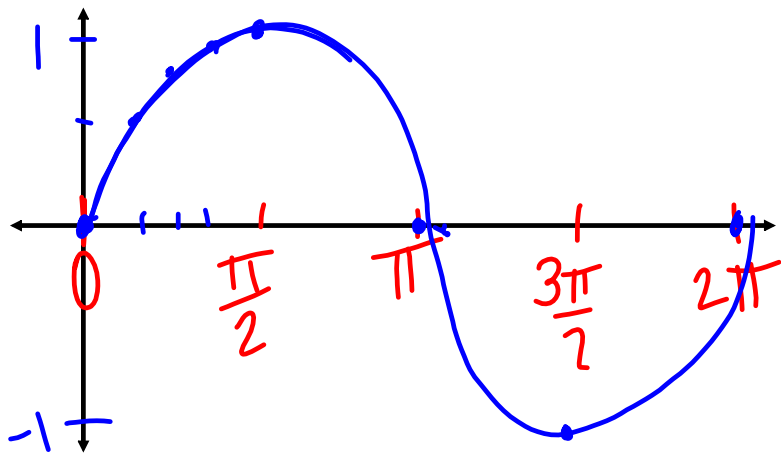
$$4) \sin \frac{3\pi}{4} = +\frac{\sqrt{2}}{2}$$

$$\tan \frac{7\pi}{6} = \frac{1}{\sqrt{3}}$$



Let's graph a sine graph using the unit circle values.

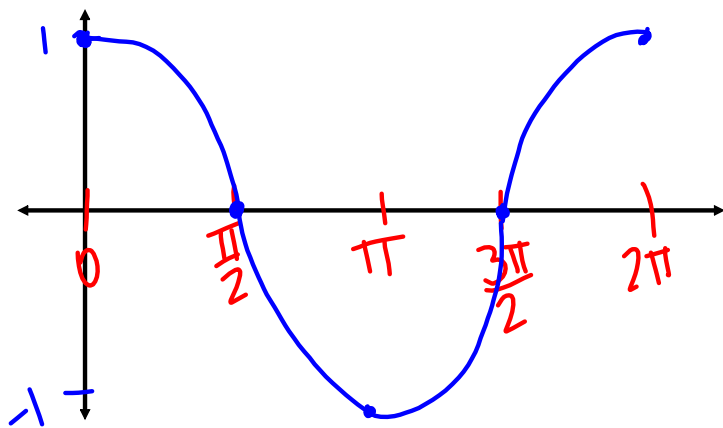
$$f(x) = \sin x$$



Domain:
Range:

Let's graph a cosine graph using the unit circle values.

$$f(x) = \cos x$$



Domain:
Range:

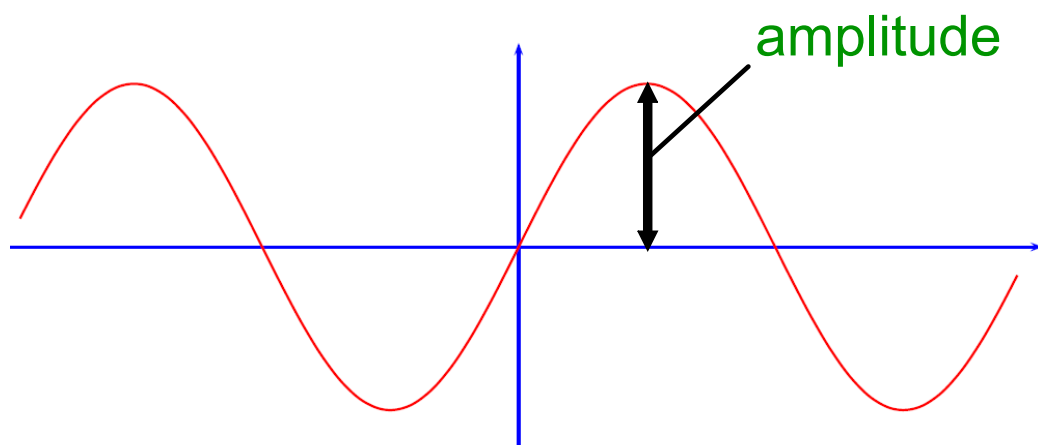
<http://curvebank.calstatela.edu/unit/unit.htm>

<http://www.mathopenref.com/triggraphsine.html>

LT: Identify and graph the amplitude and period of a sine and cosine function.

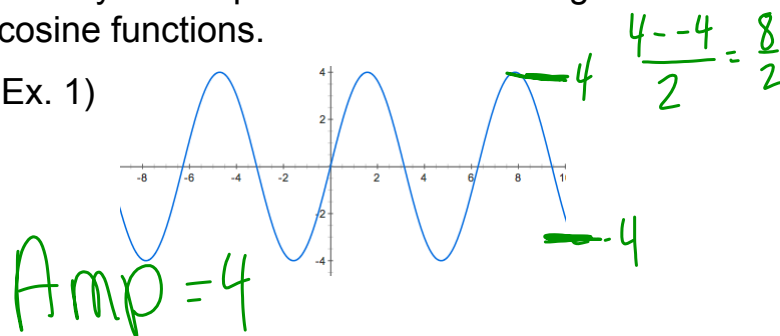
Part I: Amplitude = $\frac{\text{Max}-\text{Min}}{2}$

Definition: half the distance between the maximum and minimum values

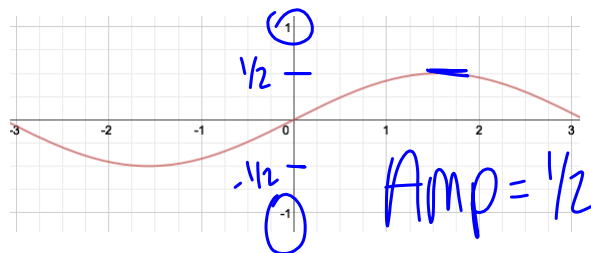


Identify the amplitude of the following sine and cosine functions.

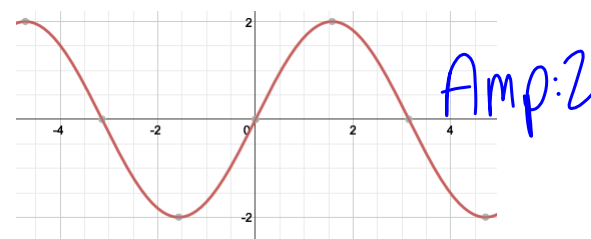
Ex. 1)



Ex. 2)



Ex. 3)



How the amplitude changes the function:

$$f(x) = a \sin(x)$$

$$f(x) = a \cos(x)$$

Amp - Always Positive!

Determine the amplitude of the following functions.

$$f(x) = 5 \sin(x)$$

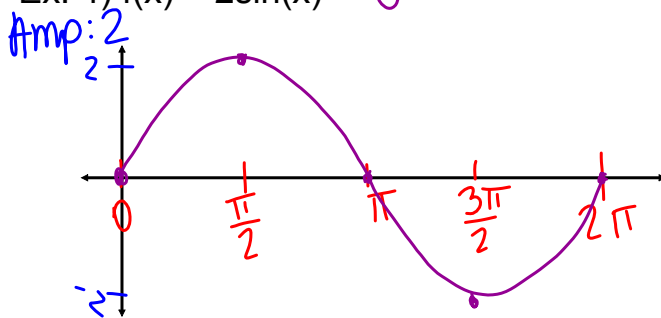
Amp: 5

$$f(x) = 2.75 \cos(x)$$

Amp: 2.75

Graph the following functions over the indicated intervals (Be sure to use 5 key points!)

Ex. 4) $f(x) = 2\sin(x)$ ~



Ex. 5) $f(x) = \frac{1}{2}\cos(x)$ ~

