

The Amplitude of Sine and Cosine Functions

Name _____

Date _____ Period _____

Given the following functions...

$$y = a \cdot \sin x \quad y = a \cdot \cos x$$

...the amplitude = $|a|$

$$\text{Range: } -|a| \leq y \leq |a|$$

Example:

$$y = 3 \sin x$$

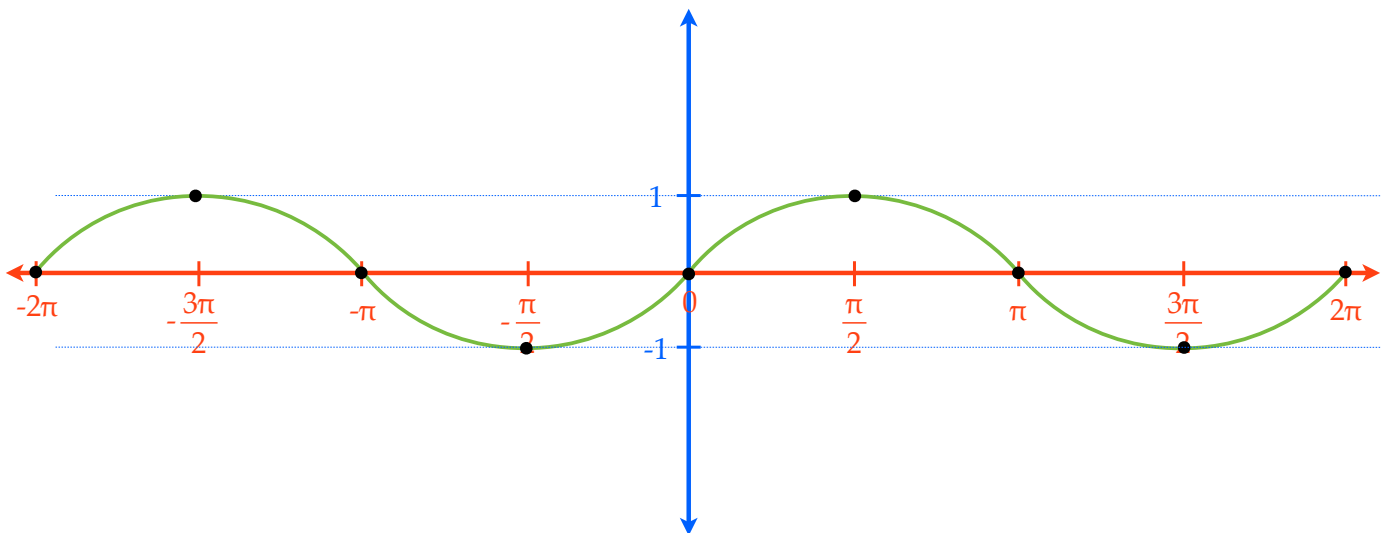
$$y = -5 \cos x$$

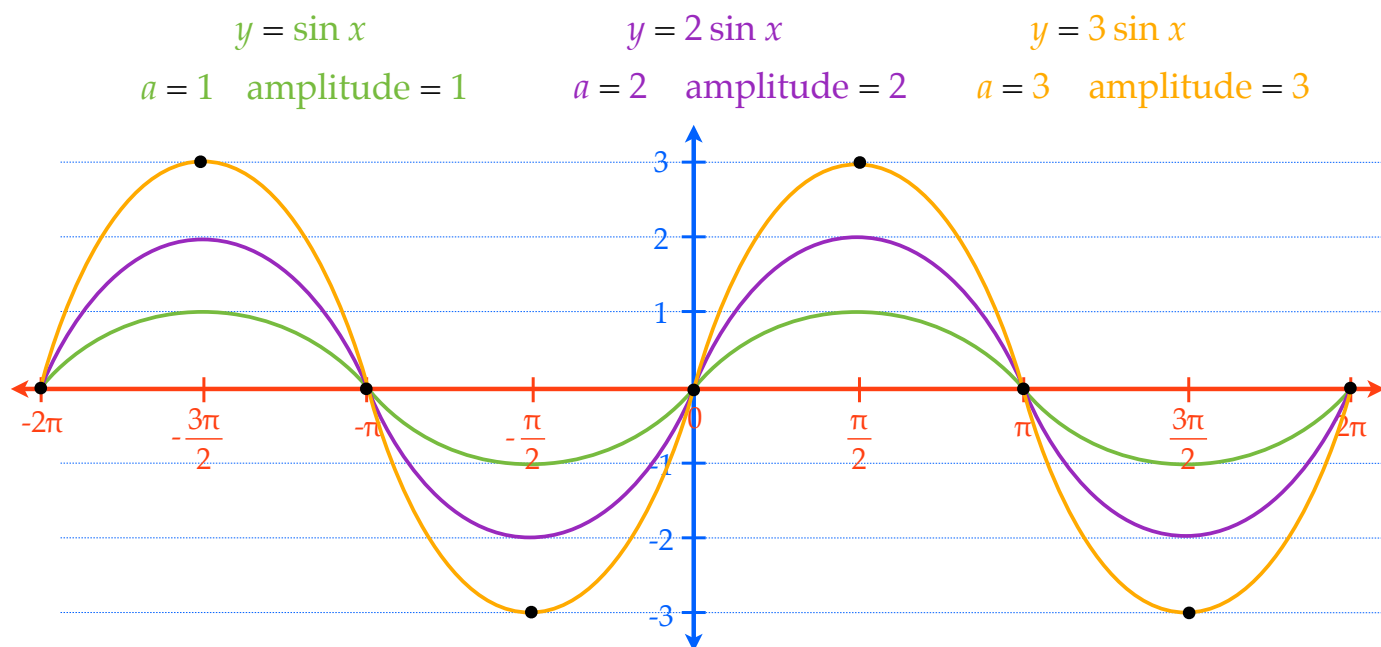
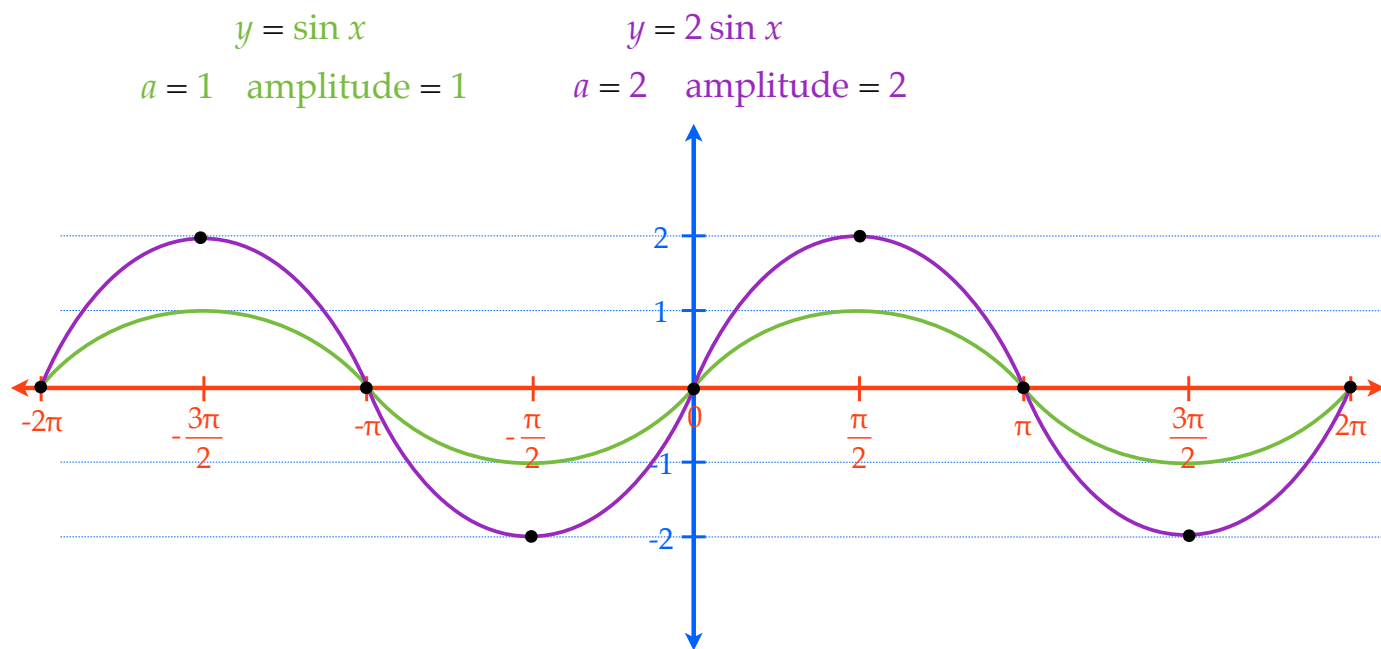
$$y = \frac{1}{2} \cos x$$

$$y = -\sin x$$

$$y = \sin x$$

$$a = 1 \quad \text{amplitude} = 1$$



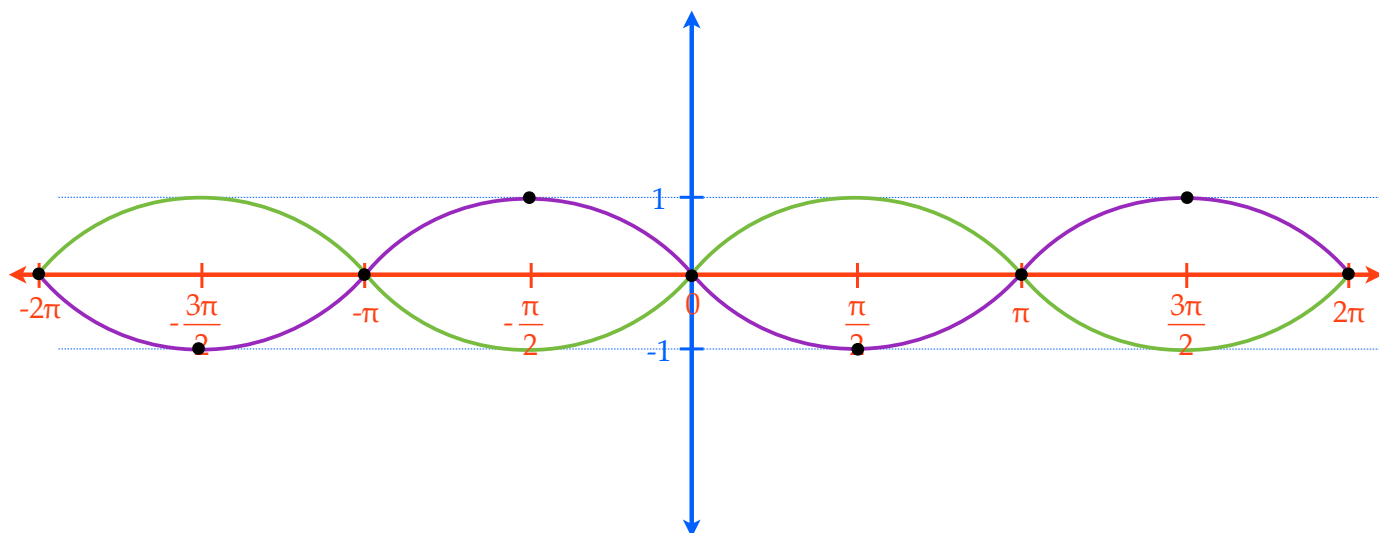


$$y = \sin x$$

$$a = 1 \quad \text{amplitude} = 1$$

$$y = -\sin x$$

$$a = -1 \quad \text{amplitude} = 1$$



$$y = \sin x$$

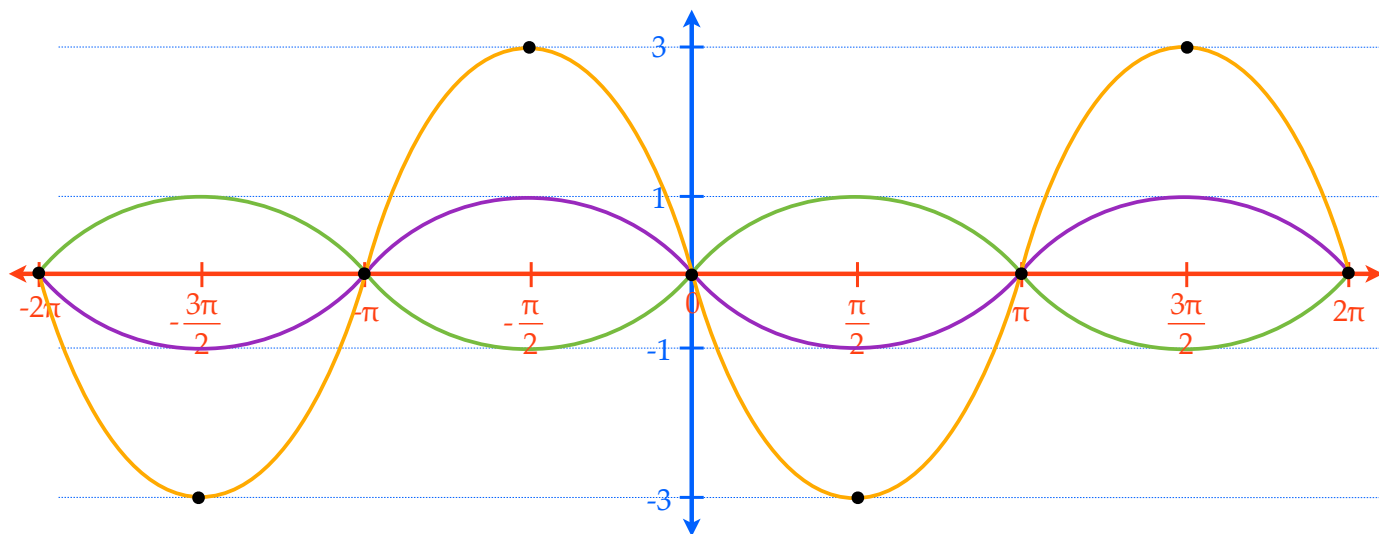
$$a = 1 \quad \text{amplitude} = 1$$

$$y = -\sin x$$

$$a = -1 \quad \text{amplitude} = 1$$

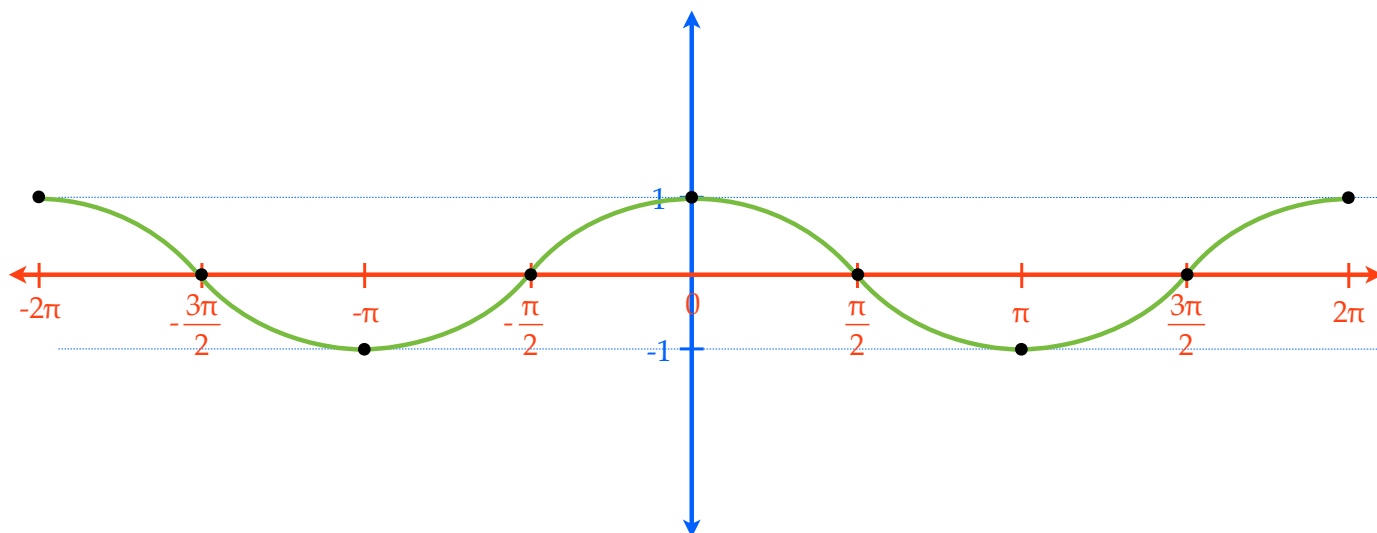
$$y = -3 \sin x$$

$$a = -3 \quad \text{amplitude} = 3$$



$$y = \cos x$$

$$a = 1 \quad \text{amplitude} = 1$$

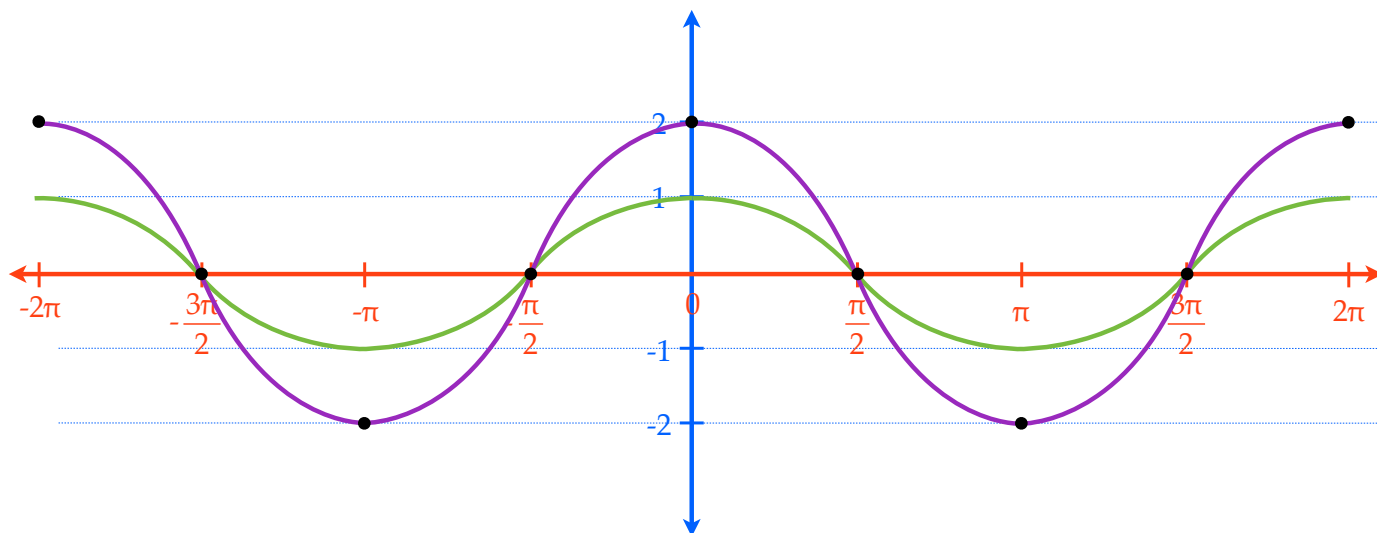


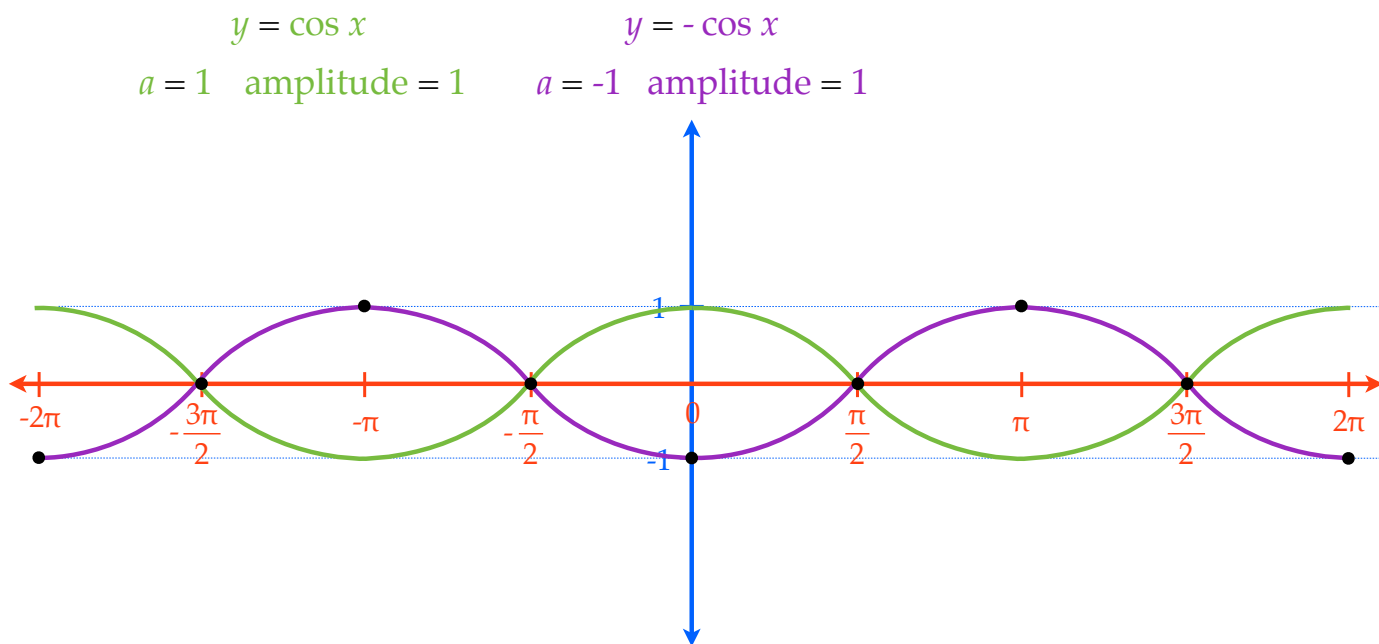
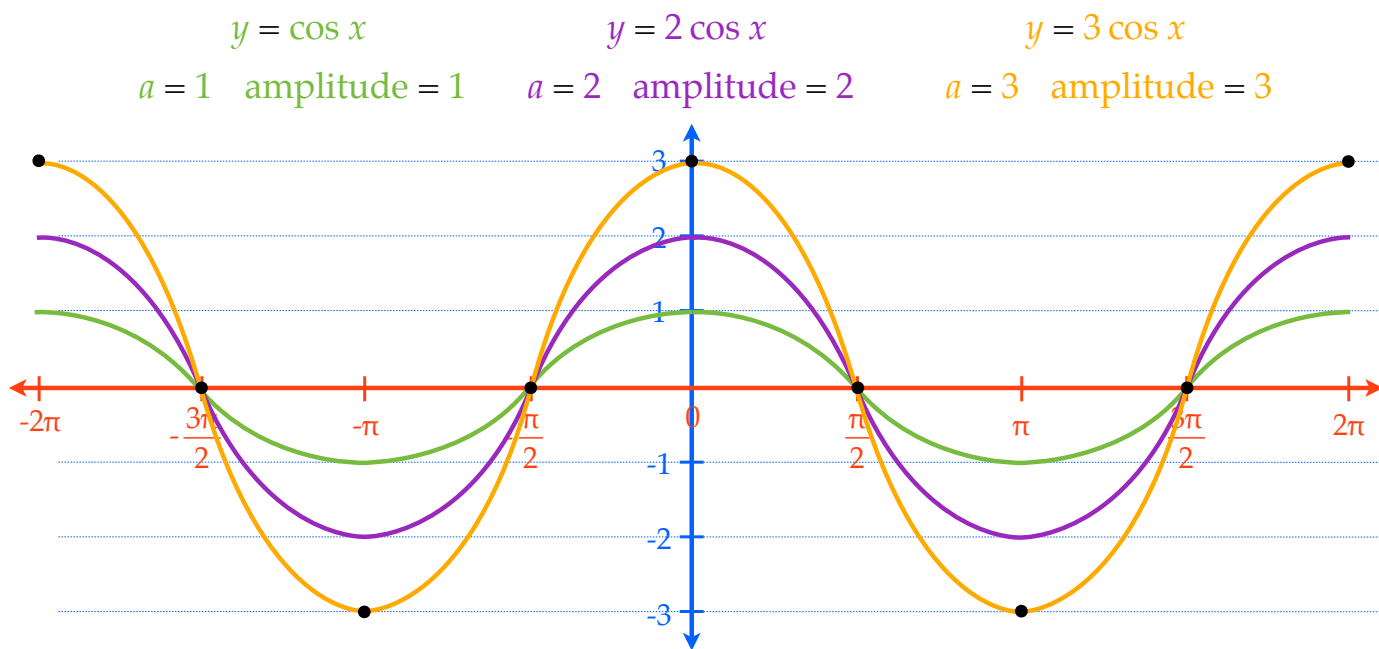
$$y = \cos x$$

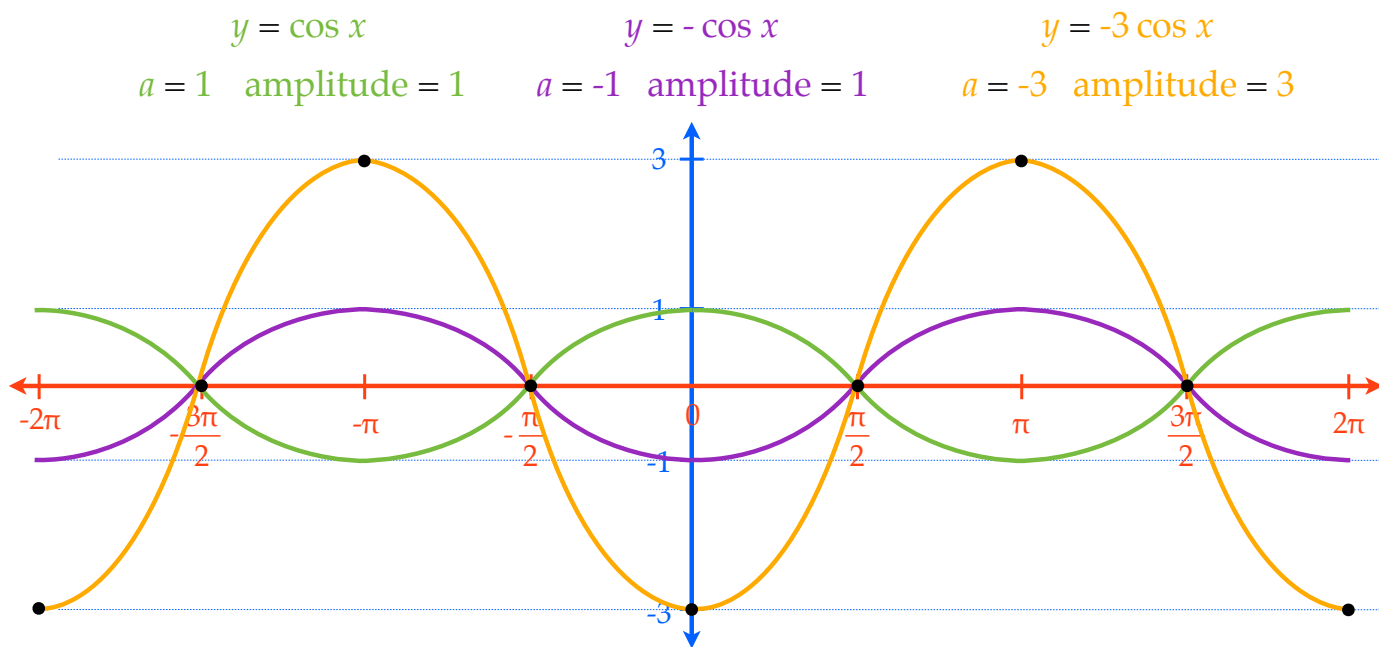
$$a = 1 \quad \text{amplitude} = 1$$

$$y = 2 \cos x$$

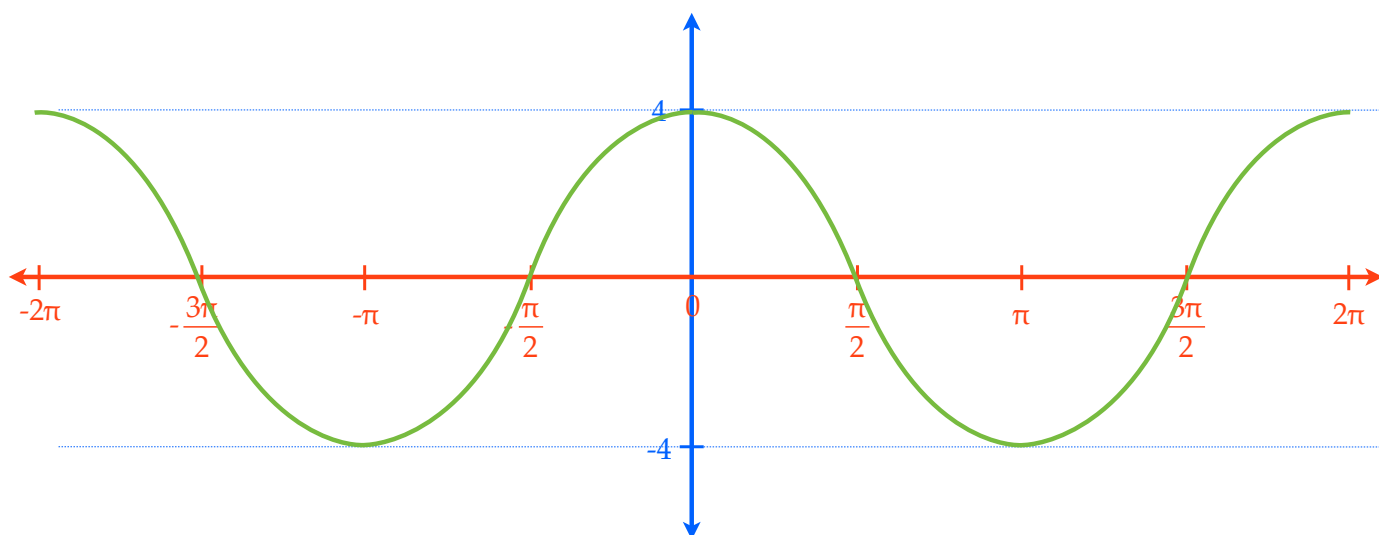
$$a = 2 \quad \text{amplitude} = 2$$



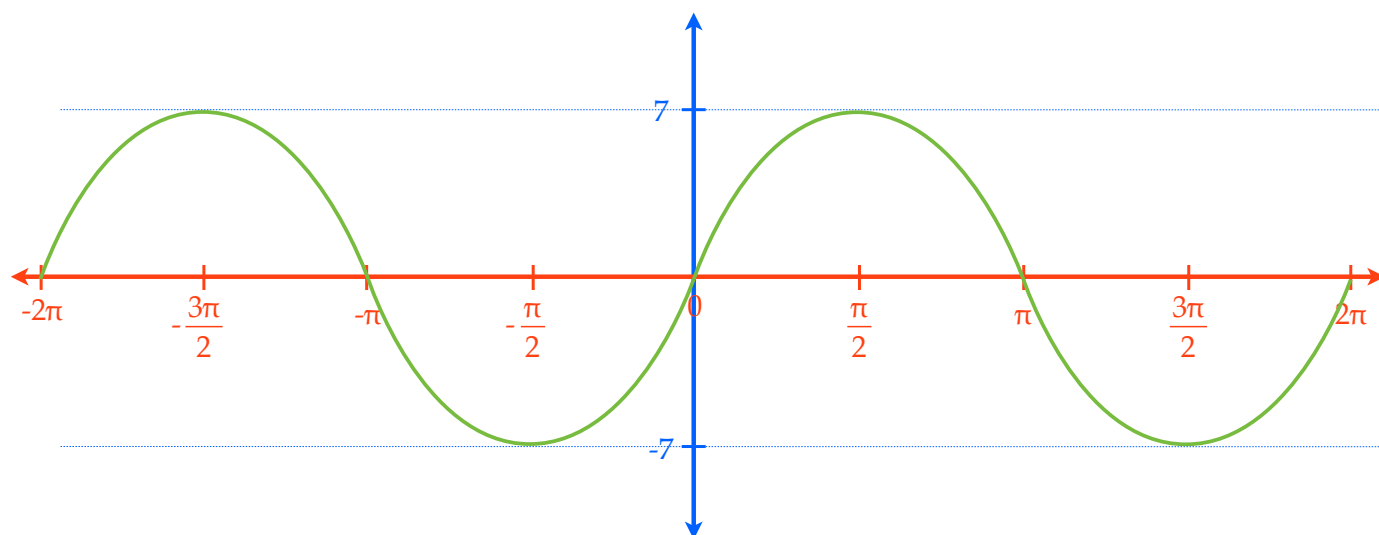




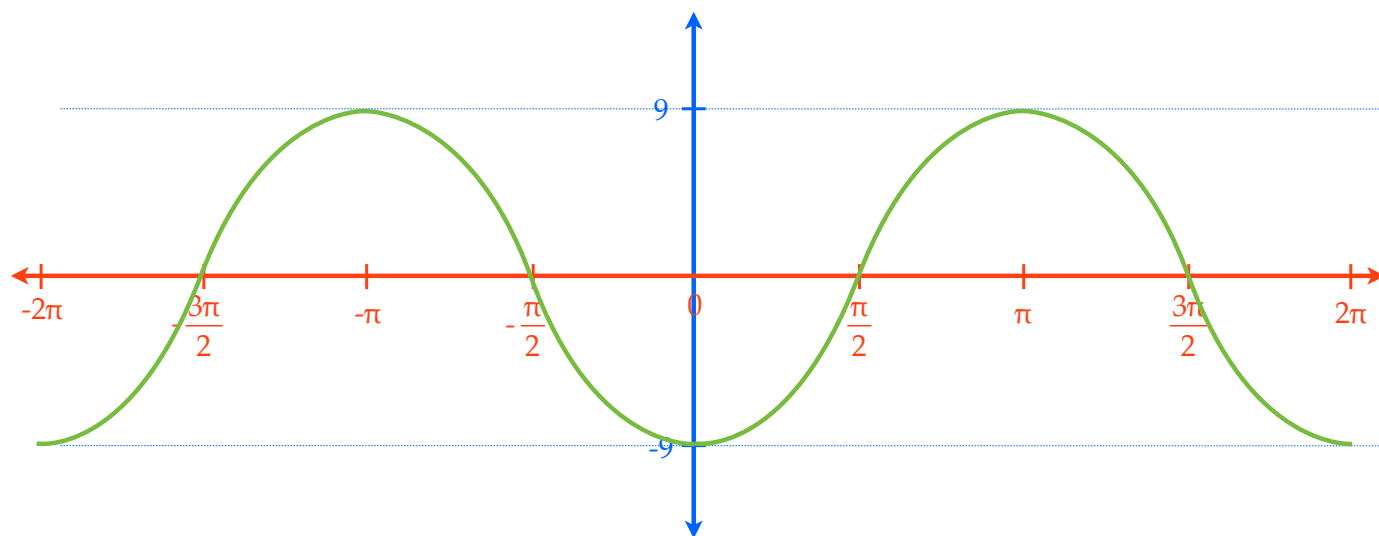
Determine the equation for each graph



Determine the equation for each graph



Determine the equation for each graph



Determine the equation for each graph

