

**8.4 The Equations of Sinusoidal Functions p. 546**

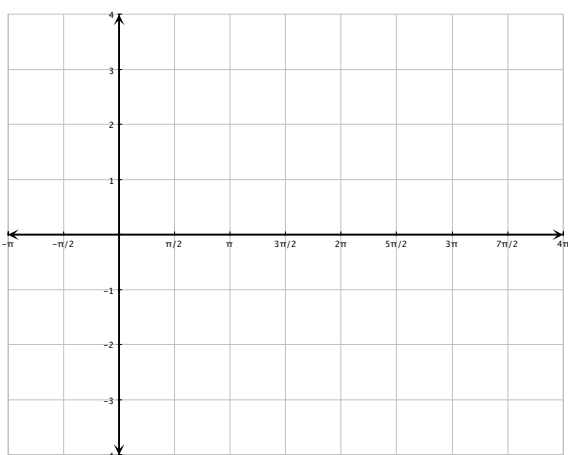
Name \_\_\_\_\_

Date \_\_\_\_\_

**Goal:** Identify characteristics of the equations of sinusoidal functions.Investigating the characteristics of  $y = a \sin b(\theta - c) + d$ 

$$y = \sin \theta$$

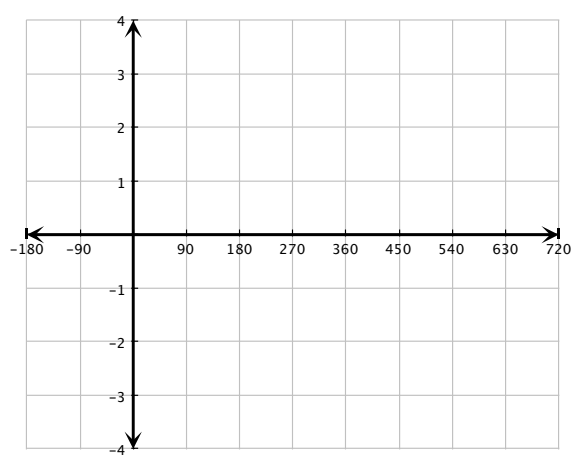
Radians



Amplitude =

Period =

Degrees

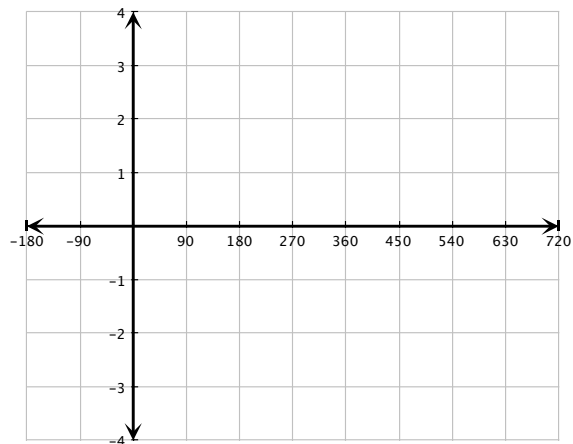
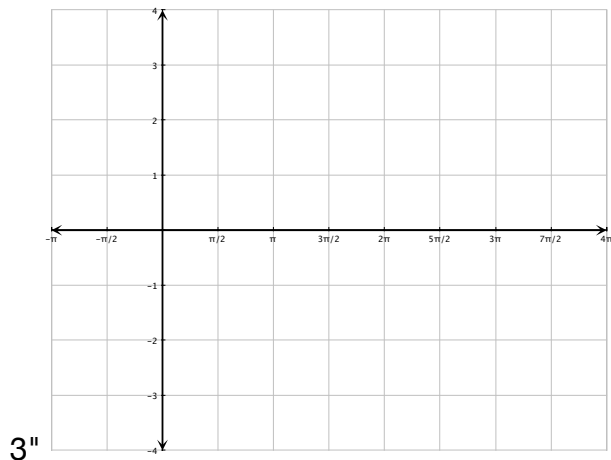


Amplitude =

Period =

$$y = 2\sin \theta \quad (a = \quad )$$

$$y = 4\sin \theta \quad (a = \quad )$$

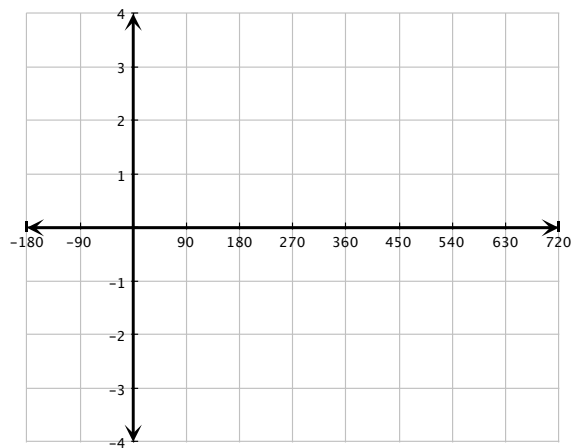
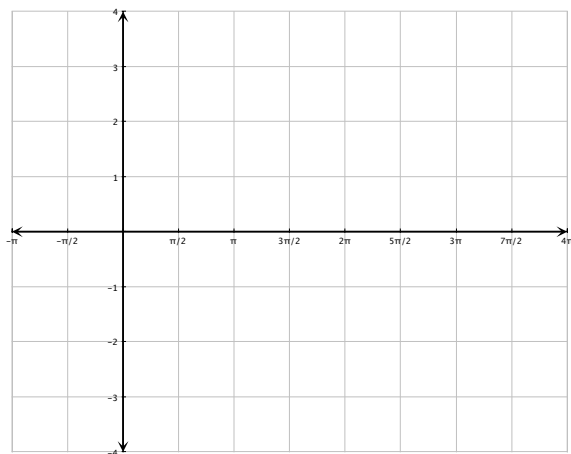


3"

$y = a \sin \theta$  What does the value of “ $a$ ” do to the **original** ( $y = \sin \theta$ ) sine function?

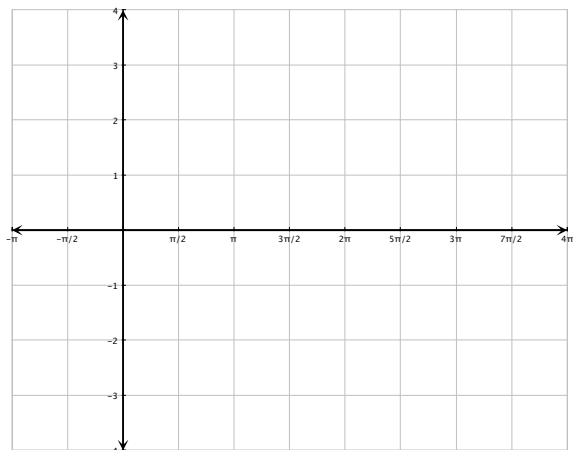
$$y = \sin 2\theta \quad (b = \quad )$$

$$y = \sin 0.5\theta \quad (b = \quad )$$

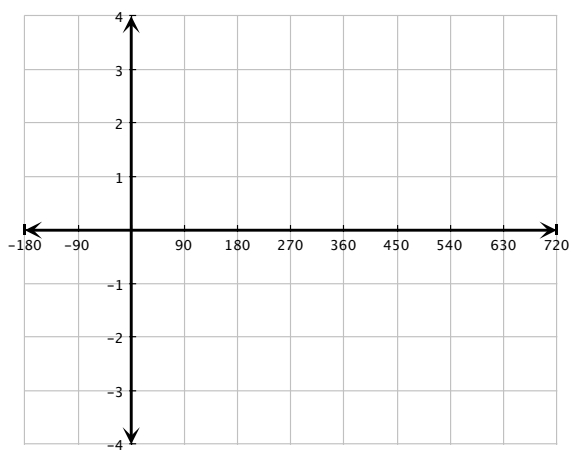


$y = \sin b\theta$  What does the value of “ $b$ ” do to the **original** ( $y = \sin \theta$ ) sine function?

$$y = \sin(\theta - \pi) \quad (c = \quad )$$



$$y = \sin(\theta + 90^\circ) \quad (c = \quad )$$

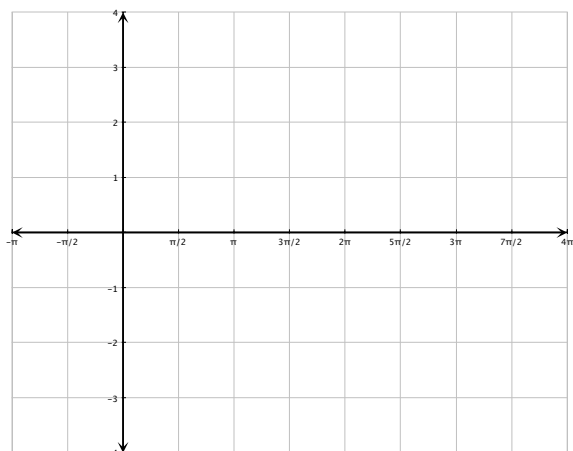


$$y = \sin(\theta - c)$$

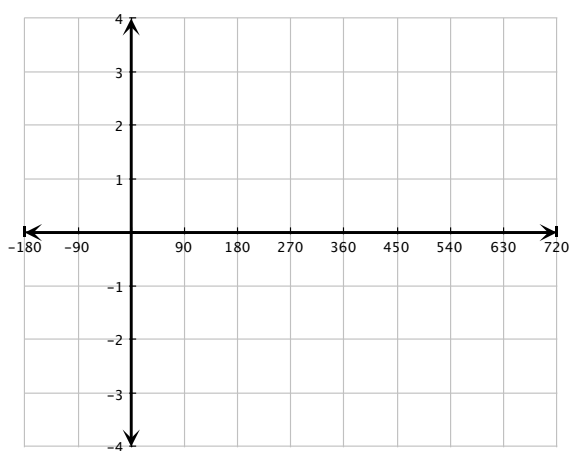
function?

What does the value of “*c*” do to the **original** ( $y = \sin\theta$ ) sine

$$y = \sin \theta + 2 \quad (d = \quad )$$



$$y = \sin \theta - 3 \quad (d = \quad )$$



$$y = \sin \theta + d$$

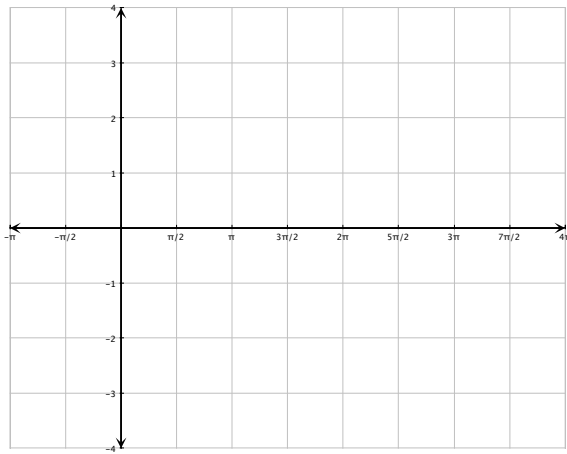
function?

What does the value of “*d*” do to the **original** ( $y = \sin\theta$ ) sine

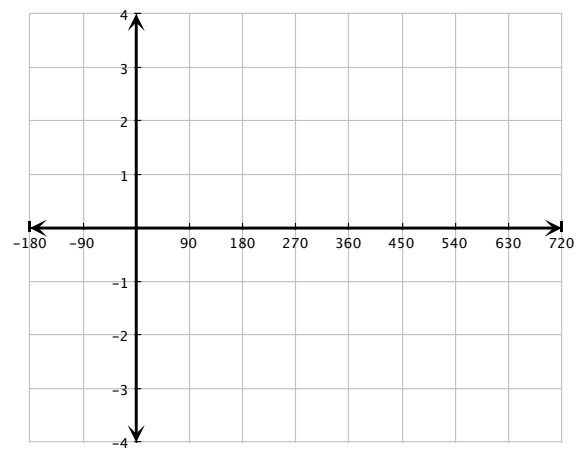
$$y = a \sin b(\theta - c) + d$$

$$y = a \cos b(\theta - c) + d$$

$$y = \sin 2\theta - 3$$



$$y = 3\sin(\theta - 45^\circ) + 1$$



HW: 8.4 pp. 558-561 1-4, 5-9,12, 13 & 14