

Tuesday, January 31, 2017

- ✓ HW Check
- ✓ Graphing Sine/Cosine w/Transformations
- ✓ HW on Calendar - Book/Online



HW Expectations

- ✓ All Problems Written Down
- ✓ Attempted
- ✓ Checked Vs. Key
- ✓ Questions Written Down
- ✓ On a Piece of Paper that Can be Turned In

4.4 Graph Transformations

$$y = A \sin [B(x-D) + C]$$

$$y = A \cos [B(x-D) + C]$$

$$\text{Period} = \frac{2\pi}{B}$$

Vertical

A = amplitude
(vertical stretch/shrink)

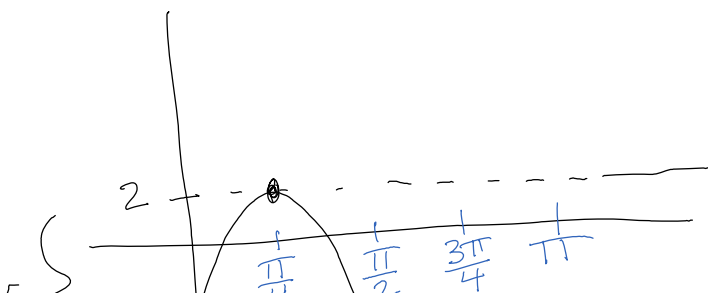
C = sinusoidal axis
(vertical shift)

Horizontal

B = $\frac{2\pi}{\text{Period}}$
(Hor. stretch/shrink)

D = Phase Shift
(Hor. shift)

① $y = 5 \sin 2\theta - 3$

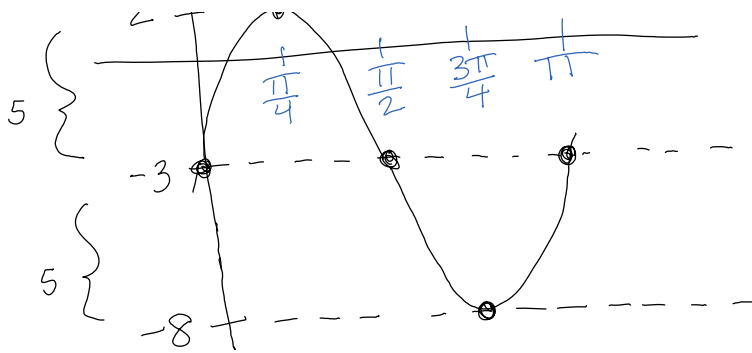


A = 5 (amp)
C = -3 (Down 3)

B = 2

$$\text{Period} = \frac{2\pi}{B}$$

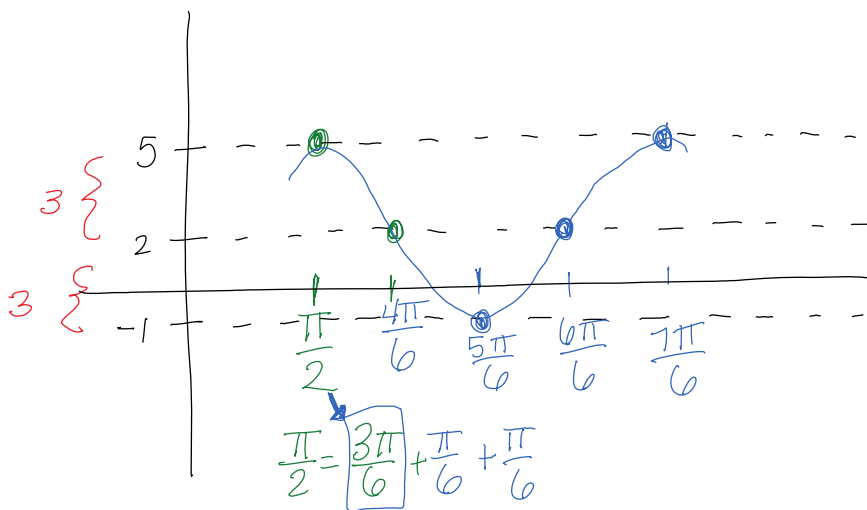
Period = $\frac{2\pi}{2} = \pi$
critical values



$\text{Period} = \frac{2\pi}{2} = \pi$
 Critical Values
 $\frac{\text{Period}}{4} = \frac{\pi}{4}$

② $y = 3 \cos\left[3\left(\theta - \frac{\pi}{2}\right)\right] + 2$

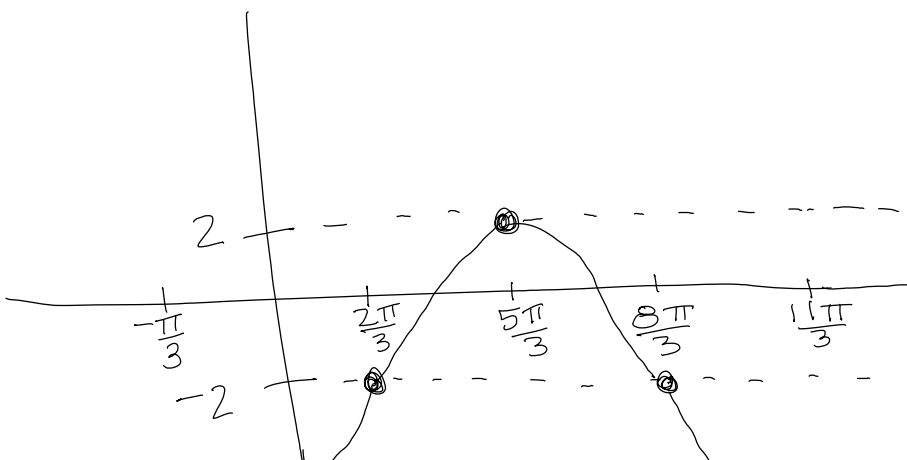
$A = 3$
 up 2 = C



$B = 3$
 $\text{Period} = \frac{2\pi}{3}$
 Critical Values =
 $\frac{2\pi}{3} \cdot \frac{1}{4} = \frac{\pi}{6}$
 $D = \frac{\pi}{2}$ start cosine graph

③ $y = -4 \cos\left[\frac{1}{2}\left(x + \frac{\pi}{3}\right)\right] - 2$

$A = -4$
 $C = -2$
 $B = \frac{1}{2}$ Period = $\frac{2\pi}{\frac{1}{2}} = 4\pi$
 Critvals =
 $\frac{4\pi}{4} = \pi$



$D = -\frac{\pi}{3}$
 Start $-\frac{\pi}{3} + \frac{3\pi}{3}$
 $+ \frac{3\pi}{3}$

