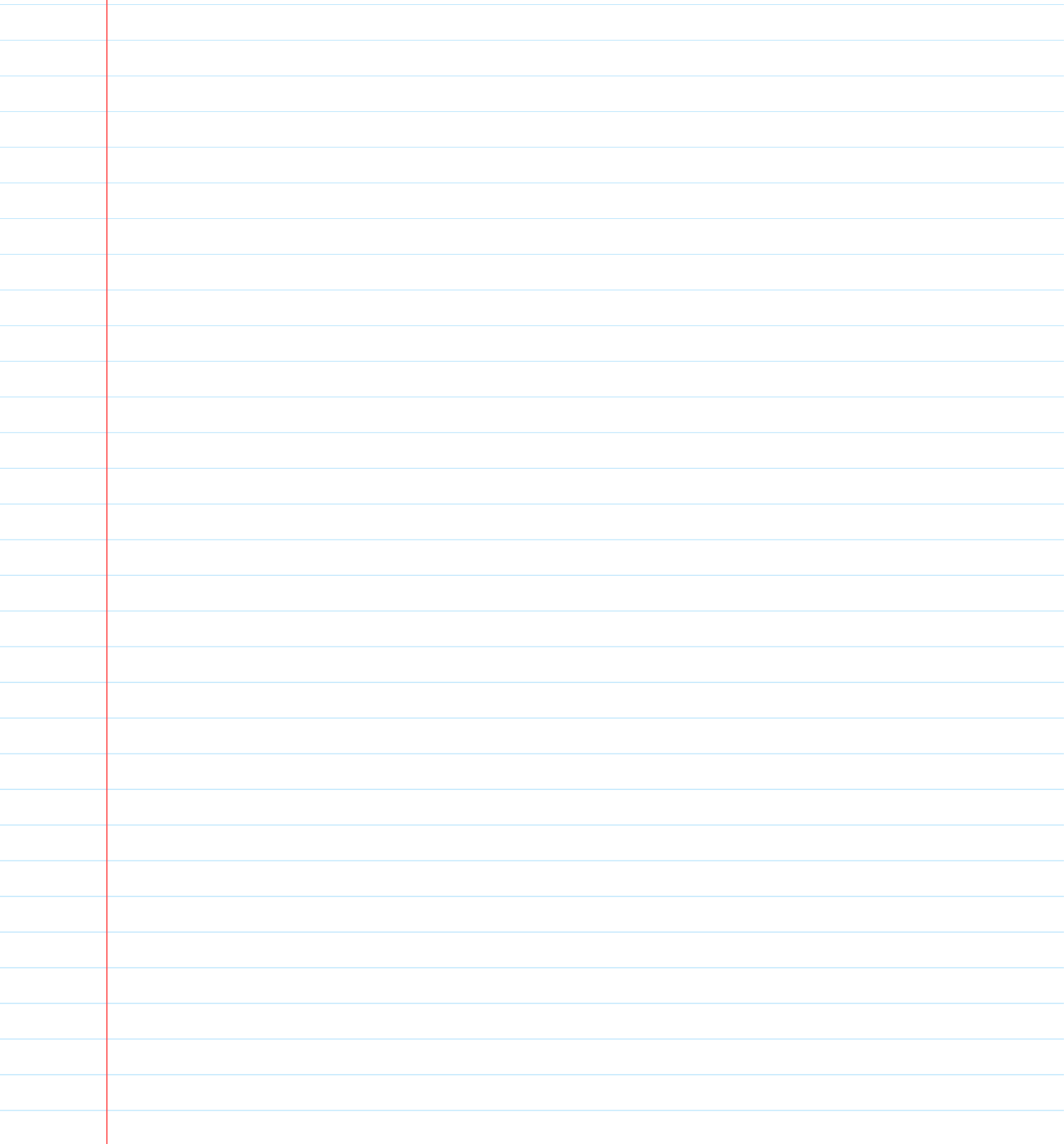


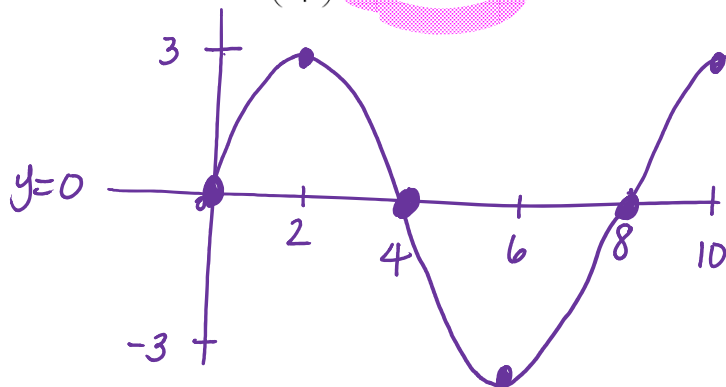
# Graphing day 2

Friday, January 27, 2017 9:12 AM



Graph transformations of sinusoids day 2

1. Graph  $y = 3 \sin\left(\frac{\pi\theta}{4}\right)$  from  $[0, 10]$



Amplitude: 3

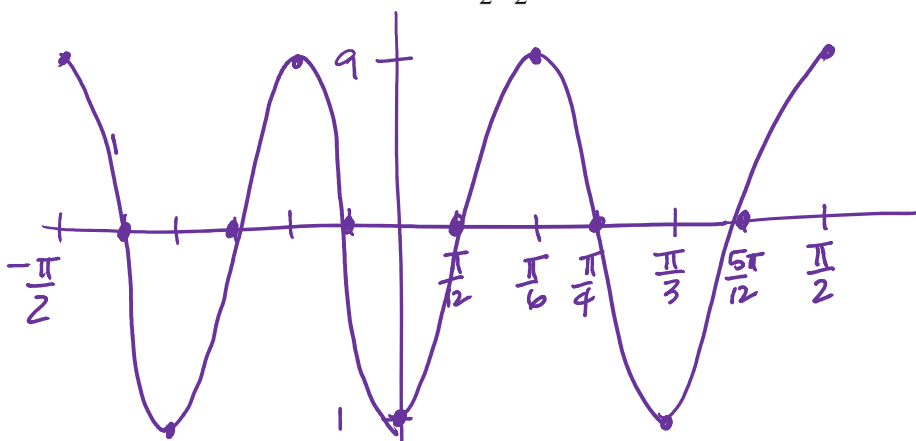
Sinusoidal axis:  $y = 0$

Period:  $\frac{2\pi}{\frac{\pi}{4}} = 2\pi \cdot \frac{4}{\pi} = 8$

Phase shift: None

End critical point: 8

2. Graph  $y = -4 \cos 6\theta + 5$  from  $[-\frac{\pi}{2}, \frac{\pi}{2}]$



Amplitude: 4

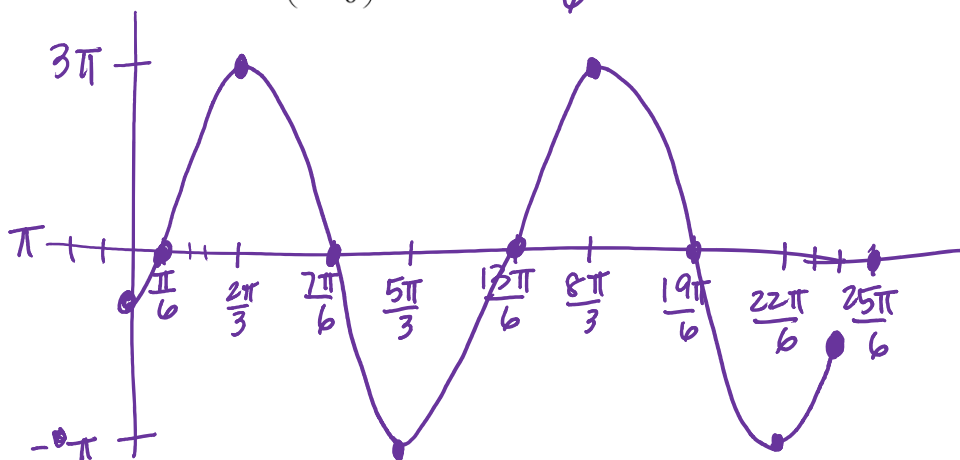
Sinusoidal axis:  $y = 5$

Period:  $\frac{2\pi}{6} = \frac{\pi}{3}$

Phase shift: None

End critical point:  $\frac{\pi}{3}$

3. Graph  $y = 2\pi \sin\left(\theta - \frac{\pi}{6}\right) + \pi$  from  $[0, 4\pi]$



Amplitude:  $2\pi$

Sinusoidal axis:  $y = \pi$

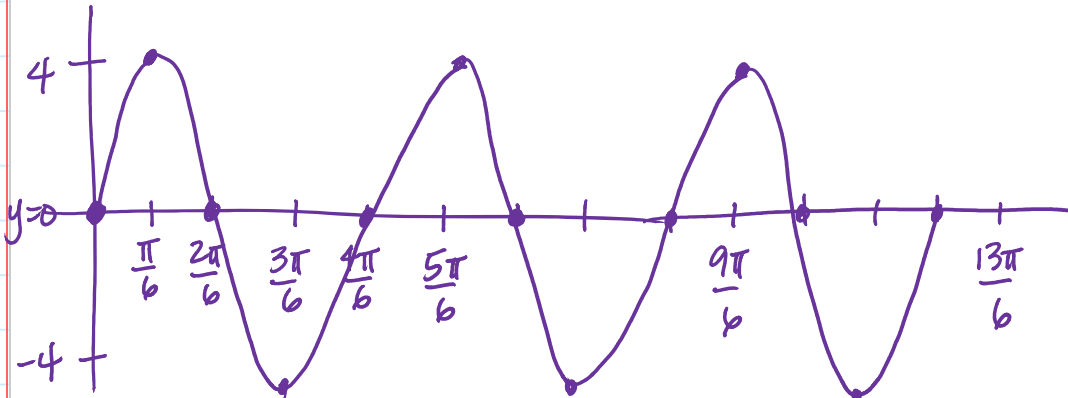
Period:  $2\pi$

Phase shift: Right  $\frac{\pi}{6}$

End critical point:

$$\frac{\pi}{6} + 2\pi = \frac{13\pi}{6}$$

4. Graph  $y = 4 \cos \left[ 3 \left( \theta - \frac{\pi}{6} \right) \right]$  from  $[0, 2\pi]$



Amplitude: 4  
 Sinusoidal axis:  $y = 0$   
 Period:  $\frac{2\pi}{3}$   
 Phase shift:  $\frac{\pi}{6}$   
 End critical point:  
 $\frac{\pi}{6} + \frac{2\pi}{3} = \frac{5\pi}{6}$

5. Graph  $y = -0.5 \cos \left( \frac{\pi\theta}{2} - 2\pi \right)$  from  $[-4, 12]$

$$= -0.5 \cos \left[ \frac{\pi}{2} (\theta - 4) \right]$$

Amplitude: 0.5  
 Sinusoidal axis:  $y = 0$   
 Period:  $\frac{2\pi}{\frac{\pi}{2}} = 2\pi \cdot \frac{2}{\pi} = 4$   
 Phase shift: 4  
 End critical point:  
 $4 + 4 = 8$

6. Graph  $y = 2 \sin \left( 2\theta - \frac{\pi}{2} \right) - 5$  from  $[-\pi, 3\pi]$

Amplitude:  
 Sinusoidal axis:  
 Period:  
 Phase shift:  
 End critical point: