Bellwork Friday, April 4, 2014

1. State the period and amplitude of each.

$a\sin bx$

a) $y = 13\sin 9x$

Period = $\frac{2\pi}{9}$

Amplitude = 13

b) $y = -2\sin\left(\frac{x}{8}\right)$

$\frac{x}{8} = \frac{1}{8}x$

Period = 16π

Amplitude = 2

c) $y = \frac{1}{2}\sin\left(\frac{4x}{5}\right)$

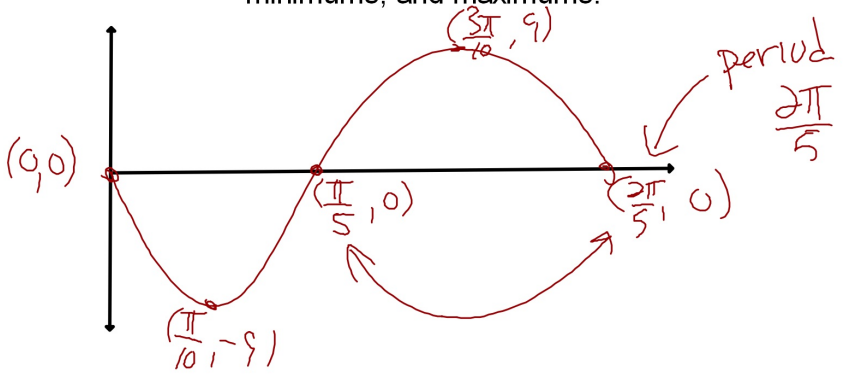
Period = $\frac{5\pi}{2}$

Amplitude = $\frac{1}{2}$

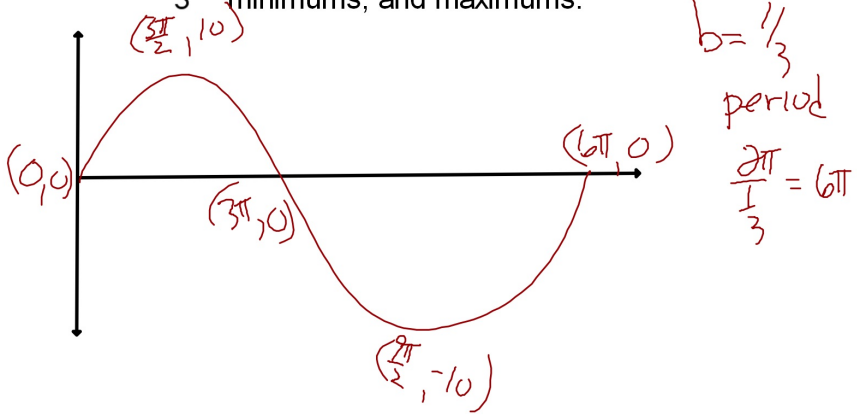
$b = \frac{4}{5}$

period $\frac{2\pi}{\frac{4}{5}} = \frac{1}{2}\pi \cdot \frac{5}{4} = \frac{5\pi}{2}$

2. Sketch one period of the graph of $y = -9\sin(5x)$ Label the coordinates of all x-intercepts, minimums, and maximums.



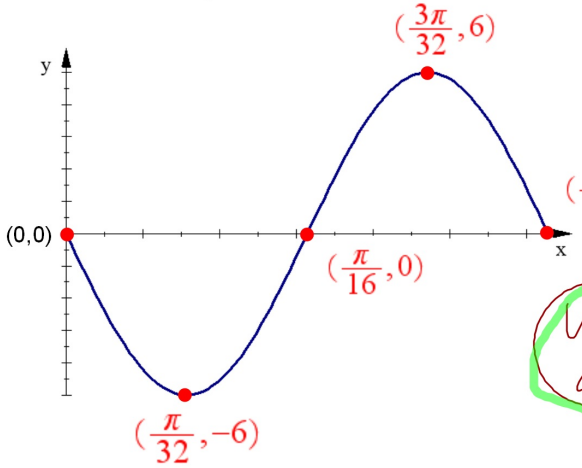
3. Sketch one period of the graph of $y = 10\sin\frac{x}{3}$ Label the coordinates of all x-intercepts, minimums, and maximums.



$b = \frac{1}{3}$

period $\frac{2\pi}{\frac{1}{3}} = 6\pi$

3. Write the equation of this sine function.



Amp = 6

period = $\frac{\pi}{8}$

$b = \frac{2\pi}{\pi/8} = 2\pi \cdot \frac{8}{\pi}$

$y = -6\sin 16x$