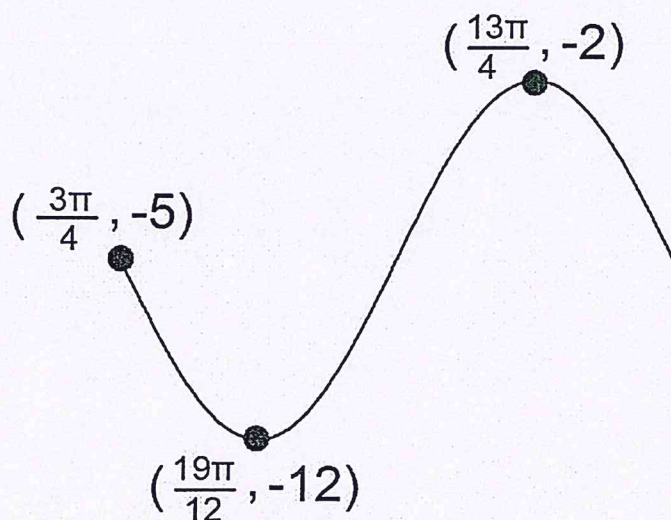


Bellwork Alg 2 Tuesday, April 23, 2019

1. Sketch one period of this Sine function. Label the coordinates of all max, min, and points on the midline.

$$y = 13 \sin(x + \frac{\pi}{6}) + 3$$

2. Write the equation of this transformed Sine function.



EQ:

1. Sketch one period of this Sine function. Label the coordinates of all max, min, and points on the midline.

$$y = 13 \sin(x + \frac{\pi}{6}) + 3$$

• Amplitude = 13

• not upside down

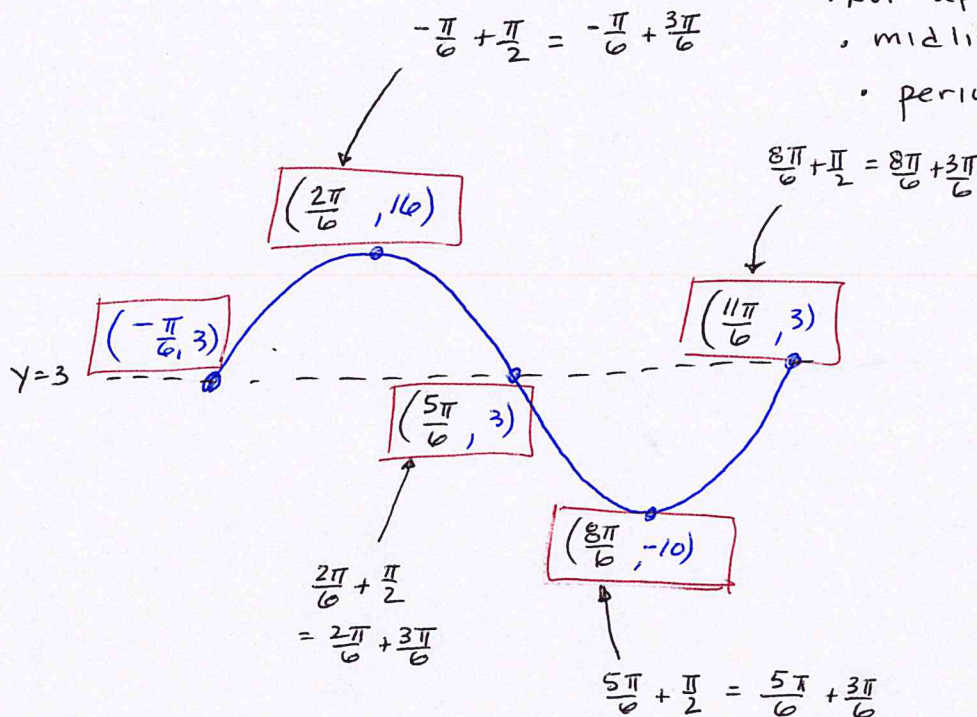
• midline: $y = 3$

• period = 2π

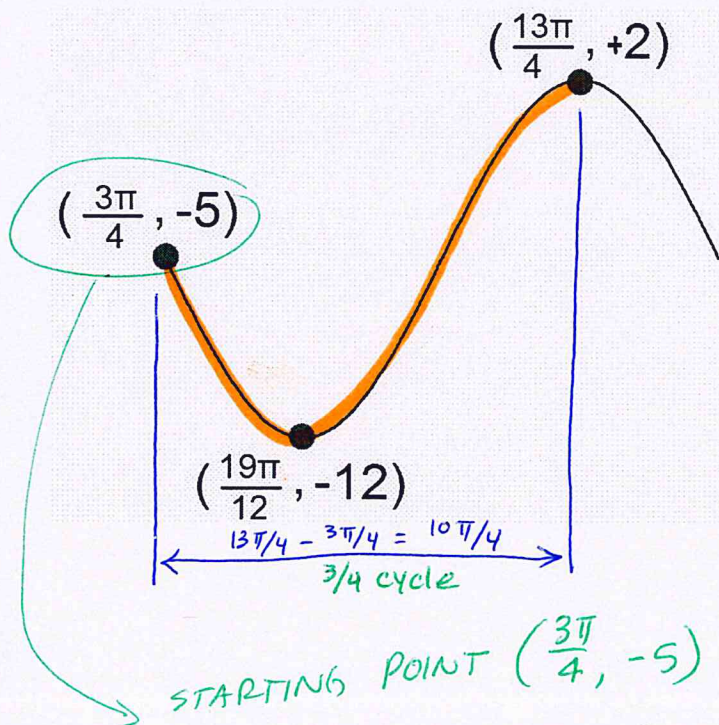
• phase shift $\frac{\pi}{6}$ Left

starting point $(-\frac{\pi}{6}, 3)$

$$\frac{1}{4} \text{ of a period} \\ 2\pi \cdot \frac{1}{4} = \frac{\pi}{2}$$



2. Write the equation of this transformed Sine function.



$$\text{EQ: } y = -7 \sin\left(\frac{3}{5}\left(x - \frac{3\pi}{4}\right)\right) - 5$$

$$\text{period} = \frac{\frac{10\pi}{4}}{\frac{3}{5}} = \frac{10\pi}{4} \cdot \frac{4}{3} = \frac{10\pi}{3}$$

$$b = \frac{2\pi}{\frac{10\pi}{3}} = 2\pi \cdot \frac{3}{10\pi} = \frac{3}{5}$$

• midline $y = -5$
• phase shift: $\frac{3\pi}{4}$ right

• Amplitude $2 - (-5) = 7$
• upside down