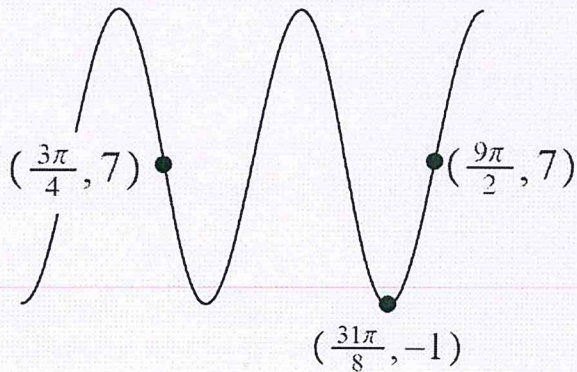


Bellwork Alg 2B Tuesday, March 13, 2018

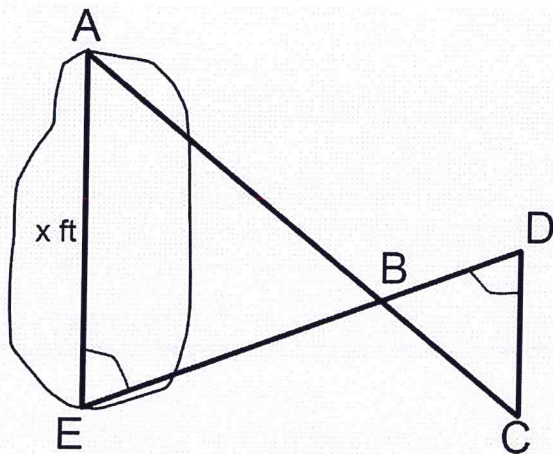
1. Write the equation of this Sine graph.



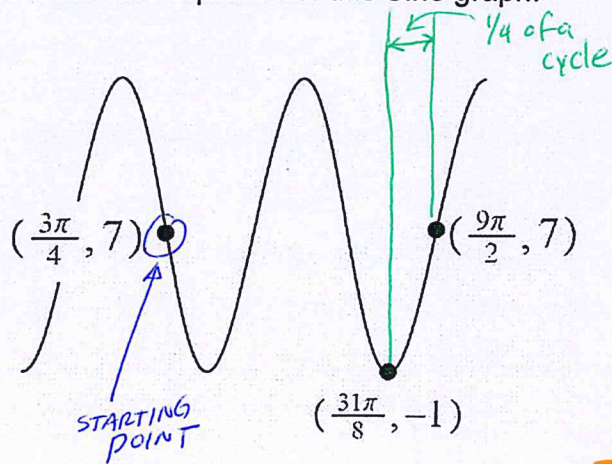
2. If $x > 3$, which of the following is equivalent to $\frac{1}{\frac{1}{x+2} + \frac{1}{x+3}}$?

- A) $\frac{2x+5}{x^2+5x+6}$ B) $\frac{x^2+5x+6}{2x+5}$ C) $2x+5$ D) x^2+5x+6

3. A summer camp counselor wants to find the length, x , in feet, across a lake represented in the sketch below. The lengths represented by AB, EB, BD, and CD on the sketch were determined to be 1800ft, 1400ft, 700ft, and 800ft respectively. Segments AC and DE intersect at B, and $\angle AEB$ and $\angle CDB$ have the same measure. What is the value of x ?



1. Write the equation of this Sine graph.



Amplitude: $7 - (-1) = 8$

$a = -8$

MIDLINE: $y = 7$

$k = 7$

PHASE SHIFT: $\frac{3\pi}{4}$ RT $(x - \frac{3\pi}{4})$

PERIOD: $\frac{\frac{9\pi}{2} - \frac{31\pi}{8}}{\frac{1}{4}} = (\frac{36\pi}{8} - \frac{31\pi}{8}) \cdot 4 = \frac{5\pi}{2}$

$b = \frac{2\pi}{\frac{5\pi}{2}} = 2\pi \cdot \frac{2}{5\pi}$ $b = \frac{4}{5}$

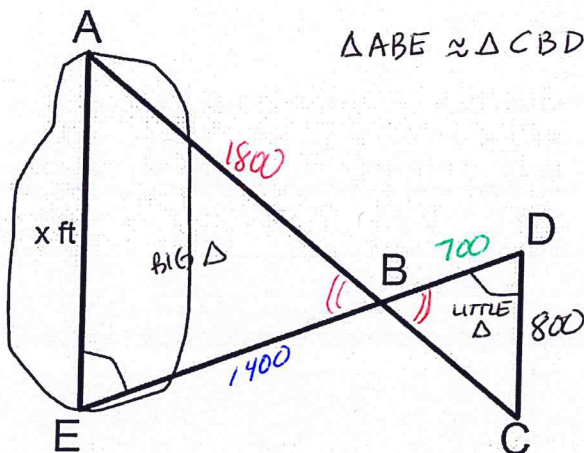
EQ: $y = -8 \sin\left(\frac{4}{5}\left(x - \frac{3\pi}{4}\right)\right) + 7$

2. If $x > 3$, which of the following is equivalent to $\frac{1}{\frac{1}{x+2} + \frac{1}{x+3}}$?

- A) $\frac{2x+5}{x^2+5x+6}$ B) $\frac{x^2+5x+6}{2x+5}$ C) $2x+5$ D) x^2+5x+6

$$\frac{1}{\frac{1}{x+2} + \frac{1}{x+3}} \cdot \frac{(x+2)(x+3)}{(x+2)(x+3)} = \frac{(x+2)(x+3)}{(x+3) + (x+2)} = \frac{x^2+5x+6}{2x+5}$$

3. A summer camp counselor wants to find the length, x , in feet, across a lake represented in the sketch below. The lengths represented by \overline{AB} , \overline{EB} , \overline{BD} , and \overline{CD} on the sketch were determined to be 1800ft, 1400ft, 700ft, and 800ft respectively. Segments \overline{AC} and \overline{DE} intersect at B , and $\angle AEB$ and $\angle CDB$ have the same measure. What is the value of x ?



$\triangle ABE \sim \triangle CBD$

Triangles are Similar, therefore, corresponding sides are proportional

$\frac{B}{L}: \frac{1400}{700} = \frac{1800x}{800}$

$x = 1600 \text{ ft}$