

**Pre-Calculus 12 Take home quiz answers:**

2a.)

$$x = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{3\pi}{2}$$

b.) No Solution (tell me why)

$$\text{c.) } \begin{matrix} 3.102 + n \\ 3.898 + n' \end{matrix}, n \in Z$$

$$\text{d.) } \begin{matrix} -0.168 + \frac{4\pi}{3}n \\ 2.263 + \frac{4\pi}{3}n \end{matrix}, n \in Z$$

3. a.) Here are four possible equations

$$h(t) = -15 \cos \frac{2\pi}{60}t + 16$$

$$h(t) = 15 \cos \frac{2\pi}{60}(t - 30) + 16$$

$$h(t) = 15 \sin \frac{2\pi}{60}(t - 15) + 16$$

$$h(t) = -15 \sin \frac{2\pi}{60}(t - 45) + 16$$

b.) 28.135 m

$$\text{c.) } \begin{matrix} 4.988 + 60n \\ 55.012 + 60n' \end{matrix}, n \in Z \text{ (in seconds)}$$

d.) 13.077s

4. a.) Here is the best equation to use

$$h(t) = 7 \cos \frac{2\pi}{13}(t - 3) + 11$$

b.) 8.518 m

$$\text{c.) } \begin{matrix} 5 + 13n \\ 14 + 13n' \end{matrix}, n \in Z$$