

Math 1613 - Trigonometry

Quiz #8 - 2010.10.19

Solutions

Graph the function $y = 1 - 3 \cos\left(\frac{3}{2}x - \frac{\pi}{6}\right)$. Be sure to include all important information on your graph!

First, we need to determine a period for the modified cos function:

$$\begin{aligned} 0 &\leq \frac{3}{2}x - \frac{\pi}{6} \leq 2\pi \\ \frac{\pi}{6} &\leq \frac{3}{2}x \leq \frac{13\pi}{6} \\ \frac{\pi}{9} &\leq x \leq \frac{13\pi}{9} \end{aligned}$$

Then we take the graph of cos, scale it by a factor of three, reflect it about the x -axis, and finally shift it up by one.

