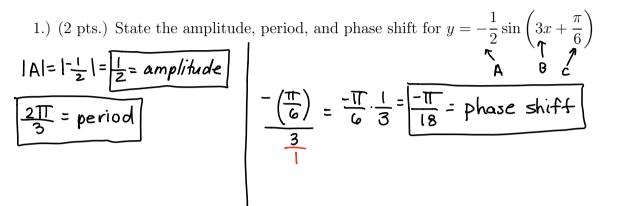
3.3 Video Worksheet

Name: <u>KEY</u>



- 2.) (8 pts.) Sketch the graph of $y = 6 4\cos\left(4x + \frac{\pi}{2}\right)$ on the interval $-\frac{\pi}{2} \le x \le \pi$ by completing each of the following steps on the same graph. Clearly label which graph belongs to each step.
 - (a.) Graph $y = \cos(4x)$. \Rightarrow period = $\frac{2\pi}{4} = \frac{\pi}{2}$ (b.) Graph $y = \cos\left(4x + \frac{\pi}{2}\right) \Rightarrow$ phase shift = $\left(\frac{-\pi}{2}\right) = -\frac{\pi}{2} \cdot \frac{1}{4} = -\frac{\pi}{8}$ to left (c.) Graph $y = -4\cos\left(4x + \frac{\pi}{2}\right)$. (Note that this is the graph of $4\cos\left(4x + \frac{\pi}{2}\right)$ reflected about the x-axis) reflection then vertical stretch by 4 (d.) Graph $y = 6 - 4\cos\left(4x + \frac{\pi}{2}\right)$ \leftarrow shift vertically up 6

