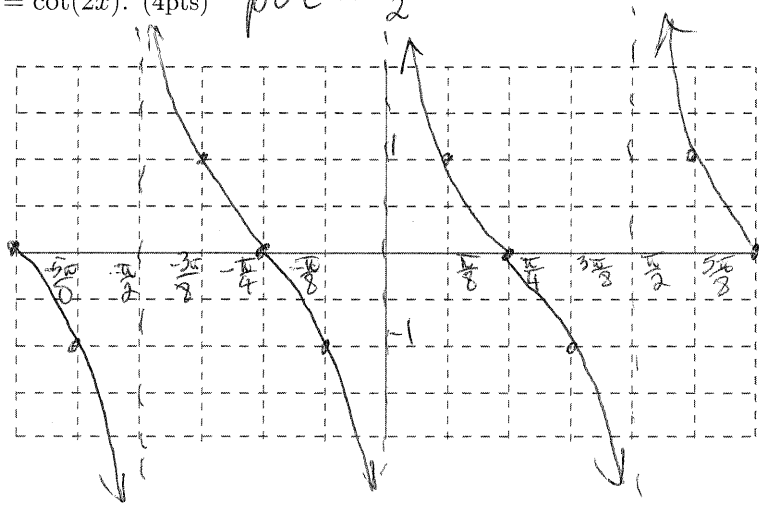


1. A grandfather clock has a pendulum with a length of 3 feet that swings through an angle of 30 degrees. What is the area that the pendulum swings through in square feet? (Leave your answer in exact form.) (2pts)

$$30^\circ = \frac{\pi}{6}$$

$$A = \frac{1}{2} \left(\frac{\pi}{6} \right) 3^2 = \frac{3\pi}{4} \text{ ft}^2$$

2. Sketch the graph of $y = \cot(2x)$. (4pts) $\text{per} = \frac{\pi}{2}$



3. Sketch the graph of $y = 2 \sec\left(x - \frac{\pi}{2}\right)$. (4pts) $\text{per} = 2\pi$ p.s. $\frac{\pi}{2}$ $\sec(x) = \frac{1}{\cos(x)}$

