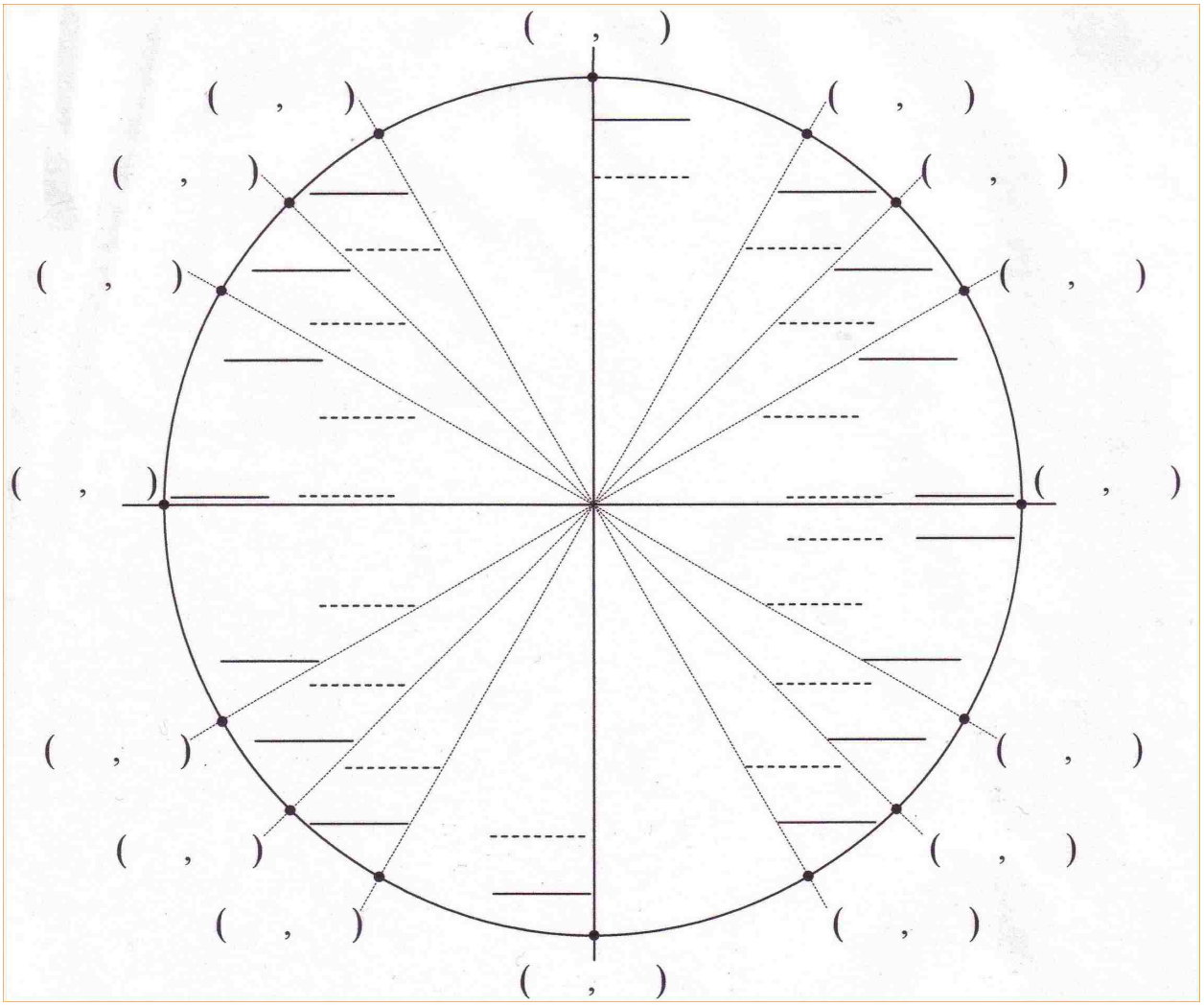
§1.2: The Unit Circle

1. Label the unit circle below by filling in the radian and degree measure, and the x and y coordinates of each point. Note, on the unit circle, the coordinate (x, y) corresponds to $(\cos\theta, \sin\theta)$, where θ is the positive angle corresponding to the point.



2. Using the unit circle, determine the value of each expression below:

   a.) $\cos\left(\frac{\pi}{2}\right) =$

   b.) $\sin\left(\frac{\pi}{3}\right) =$

   c.) $\sin\left(\frac{7\pi}{4}\right) =$

   d.) $\cos\left(\frac{5\pi}{6}\right) =$

   e.) $\sin\left(\frac{4\pi}{3}\right) =$

3. Using the unit circle, determine the angle(s) θ that makes each equation below true:

   a.) $\sin(\theta) = \frac{1}{2}$

   b.) $\cos(\theta) = -\frac{\sqrt{3}}{2}$

   c.) $\sin(\theta) = -1$

   d.) $\cos(\theta) = -\frac{\sqrt{2}}{2}$

   e.) $\cos(\theta) = 0$