Practices.

1. If $\sin t = \frac{4}{5}$, and $0 < t < \frac{\pi}{2}$.

a. $\sin(\pi - t) = \frac{4}{5}$, $\tan t = \frac{4}{3}$

b. $\cos(\pi - t) = -\frac{3}{5}$

2. If $\sec\theta = -2$, and θ is in first or second quadrant, find $\sin\theta$. [hint: Since $\sec\theta = -2$, $\cos\theta = -\frac{1}{2}$, so this implies that θ is in the 2nd quadrant, and $\sin\theta = \frac{\sqrt{3}}{2}$.]

3. If $\csc\theta = 3, \sec\theta = \frac{3\sqrt{2}}{4}$, (a typo in the earlier pdf file) then (a) determine the quadrant θ belongs to, (b) find $\sec(\frac{\pi}{2} - \theta)$. [hint: This suggests that θ is in the first quadrant, and $\sin\theta = \frac{1}{3}$ and $\cos\theta = \frac{\sqrt{8}}{3}$, and $\sec(\frac{\pi}{2} - \theta) = \dfrac{1}{\cos(\frac{\pi}{2} - \theta)} = \frac{1}{\frac{1}{3}} = 3$.

4. For $\theta = -\frac{7\pi}{6}$. Find

a. $\sin\theta = \frac{1}{2}$ (because θ is in the 2nd quadrant with reference angle 30 degrees).

b. $\cos\theta = \dfrac{-\sqrt{3}}{2}$.

5. If $\cos t = \dfrac{3}{5}$, and $0 < t < \frac{\pi}{2}$. Find

a. $\cos(\pi - t) = \frac{-3}{5}$

b. $\sin t = \frac{4}{5}$

6. If $\sec\theta = 4$, and $0 < \theta < \frac{\pi}{2}$. Find

a. $\sin\theta = \frac{\sqrt{15}}{4}$.

b. $\tan(\pi - \theta) = -\sqrt{15}$.