Homework 7 - Pre-Calculus review

1. Convert each angle from degrees to radians in $\pi$.
   a. $\theta = -90^\circ$
   
   b. $\theta = 135^\circ$

2. Convert each angle from radians to degrees. Give exact answers.
   a. $\theta = 3$ radians
   
   b. $\theta = \frac{2\pi}{3}$ radians
   
   c. $\theta = \frac{\pi}{5}$ radians
   
   d. $\theta = -\frac{\pi}{4}$ radians

3. Given a right triangle with sides $c = 8$ and $a = 4$, find the values of $\sin \theta$ and $\cos \theta$.

4. Find the exact values for $\tan \theta$ and $\sec \theta$ of a positive angle $\theta$ if (-3,2) lies on its terminal side.

5. Name the quadrant in which the angle $\theta$ lies
   a. $\sin \theta < 0$ and $\cos \theta < 0$
   
   b. $\cot \theta < 0$ and $\sec \theta > 0$

**Extra Credit:**

1. Find $\cos \theta$ if $\tan \theta = \frac{4}{5}$ and $0 < \theta < \frac{\pi}{2}$.

2. Find ALL values of $\theta$ if $\cos \theta = \frac{1}{\sqrt{2}}$. 
