Math 105, Precalculus Name _____
Homework 4 Due Monday, Dec 14th, 3:00 pm

Show all work neatly to receive credit for your answers. You may use your copy of the unit circle.

1. Consider the angle $\theta = -\frac{3\pi}{4}$.
   a) Express $-\frac{3\pi}{4}$ radians as degrees:_____
   b) In what quadrant does the terminal side of this angle lie? _____
   c) What is the exact value of $\cos -\frac{3\pi}{4}$? _____
   d) What is the exact value of $\tan -\frac{3\pi}{4}$? _____
   e) Find two angles that are coterminal with the angle $\theta = -\frac{3\pi}{4}$.
   _____

2. Consider the angle 140°.
   a) Express 140° as radians:_____
   b) In what quadrant does the terminal side of this angle lie? _____
   c) Find an angle that is coterminal with the angle 140°. _____

3. Find the **exact** values of the following functions of the angle θ in Quadrant I, when $\sin\theta = \frac{5}{6}$. (Do not give decimal approximations for your answers.)
   a) $\cos\theta =$ _____; b) $\tan\theta =$ _____;
   c) $\sec\theta =$ _____ ; d) $\csc\theta =$ _____; e) $\cot\theta =$ _____

4. (6 points) Find the exact value for the following:
   a) $\sin -\frac{13\pi}{3} =$ _____
   b) $\sec(135°) =$ _____

5. Find the radius of the circle if an arc of length 12 m on the circle subtends a central angle of 60°. _____