Algebra 2/Trig H HW #_____ Name_____
Review: 13.1-13.4, 13.7

1. Sketch an angle with degree measure -476°. Find (a) the quadrant where the angle terminates, (b) the measure of the reference angle, (c) a positive angle coterminal with the given angle, and (d) a negative angle coterminal with the given angle.

2. Sketch an angle with radian measure $\frac{11\pi}{12}$. Find (a) the quadrant where the angle terminates, (b) the measure of the reference angle, (c) a positive angle coterminal with the given angle, and (d) a negative angle coterminal with the given angle.

3. Use a calculator to find values rounded to the 4th decimal place for:
   a) sec 151° b) cot (-132°)

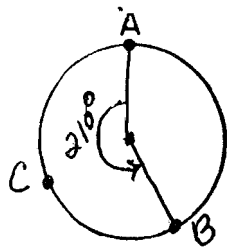
4. Find exact values, in simplest form for:
   a) cos (-210°) b) csc 675° c) $\tan\left(\frac{-2\pi}{3}\right)$ d) $\sec\left(\frac{7\pi}{3}\right)$

5. The terminal side of angle θ in standard position passes through the point (-6, -5). Find exact values in simplest form for all six trigonometric functions of θ.

6. Find angle measures in degrees and radians, or exact values in simplest form for:
   a) $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right)$ b) $\tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$ c) $\cot^{-1}(\tan(-60°))$
   d) $\tan^{-1}\left(\cot\left(\frac{-2\pi}{3}\right)\right)$ e) $\sec^{-1}\left(\tan\frac{7\pi}{4}\right)$ f) $\sin\left(\cos^{-1}\frac{2}{3}\right)$
   g) $\tan\left(\csc^{-1}\left(\frac{-8}{7}\right)\right)$

Round answers for #7-12 to the nearest tenth.

7. A sector of a circle has radius 4 cm. and central angle 210°.
   a) Find the length of arc ACB ($s = r\theta$)
   b) Find the area of the sector with central angle 210° $\left(A = \frac{1}{2}r^2\theta\right)$



8. Find θ, using a calculator, if:
   a) $\sin\theta$ = .5132, where $90° < \theta < 180°$ b) $\cos\theta$ = -.7392, where $180° < \theta < 360°$

9. Solve ΔEAT, if $\angle E = 32°$, $e = 15$, and $a = 18$. Give **both** possible answer sets.

10. Solve ΔBIG, if $b = 9$, $i = 11$, and $g = 13$.

11. Solve ΔMAC, if $\angle M = 90°$, $\angle A = 37°$, and $c = 8$. (do not use the law of sines)

12. A goalie saves a goal and drop kicks the soccer ball down the field. The ball has an initial speed of 26 ft/sec and is kicked from a height of 2 feet above the ground. The ball is kicked at an angle of 45°.
    a) Write a set of simplified parametric equations to describe the soccer ball's motion.
    b) How long is the ball in the air?
    c) How far down the field (from where she kicked it) does the ball hit the ground?

$x = (v\cos\theta)t + x_0$	$y = -16t^2 + (v\sin\theta)t + y_0$	(x_0, y_0) is location at $t = 0$