Algebra 2/Trig H HW #_____ Name_____
Review: 13.1-13.4 SHOW WORK

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.

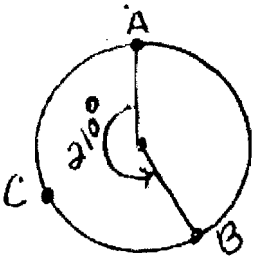
3. Use a calculator to find values rounded to the 4th decimal place for:
   a) sec 151° b) cot (-132°)

4. Draw triangles and 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). Draw a triangle and find exact values in simplest form for all six trigonometric functions of θ.

6. Use triangles as needed and 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 #7-9 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.a) Convert 260° to radian measure in simplest form. b) Convert $\frac{13\pi}{8}$ to degrees.

Answers:

1. (a) Q3 (b) 64° (c) 244° (d) -116°
2. (a) Q2 (b) $\frac{\pi}{12}$ (c) $\frac{35\pi}{12}$ (d) $\frac{-13\pi}{12}$

3. (a) -1.1434 (b) .9004
4. (a) $\frac{-\sqrt{3}}{2}$ (b) $-\sqrt{2}$ (c) $\sqrt{3}$ (d) 2

5. $\sin\theta = \frac{-5\sqrt{61}}{61}$, $\cos\theta = \frac{-6\sqrt{61}}{61}$, $\tan\theta = \frac{-5}{6}$, $\csc\theta = \frac{-\sqrt{61}}{5}$, $\sec\theta = \frac{-\sqrt{61}}{6}$, $\tan\theta = \frac{-6}{5}$

6. (a) 45°, $\frac{\pi}{4}$ (b) 30°, $\frac{\pi}{6}$ c) 150°, $\frac{5\pi}{6}$ (d) 30°, $\frac{\pi}{6}$ (e) 180°, π
   (f) $\frac{\sqrt{5}}{3}$ (g) $\frac{-7\sqrt{15}}{15}$

7. (a) 14.7 cm (b) 29.3 cm^2
8. (a) 149.1° (b) 222.3°
9. $\angle A \approx 39.5°$, $\angle T \approx 108.5°$, $t \approx 26.8$ or $\angle A \approx 140.5°$, $\angle T \approx 7.5°$, $t \approx 3.7$
10. (a) $\frac{13\pi}{9}$ (b) 292.5°