Algebra 2H

Chapter 13 Review

Directions: Show all work for credit. If necessary, leave answer in calculator ready form.

1. Let the θ be an acute angle of a right triangle. Find the values of the other five trigonometric functions of θ given that $sin\theta = \frac{5}{6}$.
2. Use the point $(-3, -5)$ on the terminal side of an angle θ in standard position to evaluate the six trigonometric functions of θ.
3. You are in a hot air balloon that is 600 feet above the ground where you can see your friend. If the angle from your line of sight to your friend is 20°, how far is he from the point on the ground below the hot air balloon?

Evaluate the following without the use of a calculator

4. $tan150°$
5. $csc\frac{2\pi}{3}$
6. $sec(-\frac{9\pi}{2})$
7. $cos480°$
8. $cot\frac{11\pi}{6}$
9. $sin\ (-\frac{5\pi}{6})$
10. $tan^{-1}(-1)$
11. $arcsin\frac{\sqrt{3}}{2}$
12. $arccos(-\frac{\sqrt{3}}{2})$

Find the reference angle, one positive coterminal angle and one negative coterminal angle for the given angle.

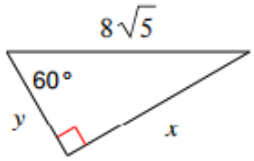
13. $\frac{29\pi}{6}$
14. $-135°$

Convert the following to degrees/radians

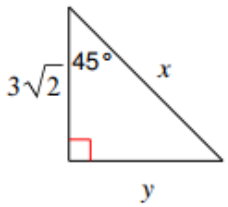
15. $260°$
16. $\frac{8\pi}{3}$

Find the exact value of x and y

17.



18.



Find the arc length AND the area of a sector with the given radius r and central angle θ

19. $r = 4\ in., \theta = \frac{\pi}{6}$
20. $r = 15m., \theta = 45°$