**Pre Calc Semester Exam Review WS Ch 5, 6, 7, 8.1, 12.1-12.3**

**Solve and show work for each problem.**

1. Find the missing coordinate if the point P lies on the unit circle .
2. Find the reference number for t = .
3. Find the exact values of all six trig functions at .
4. The terminal point determined by t is  Find sint, cost, and tant.
5. Is the function  odd, even or neither?

**Graph and find all the key points**: 6. y = 2.5cosx 7. y = -2 + 6sinx

8. y =  9. .

1. Find the period and graph y = .
2. Find one positive angle and one negative angle that are coterminal with .
3. Find sinx and cosy for right triangle XYZ if x = 7 and y = 3. (right angle at Z)
4. The angle of elevation to the top of a building is found to be 16 degrees from the ground at a distance of 2.4 miles from the base of the building. Find the height of the building.
5. Find the area of a triangle with sides of length 10 and 22 and included angle 10 degrees.
6. Use the Law of Sines to solve the triangle if a = 16, b = 12 and angle A = 101 degrees.
7. Simplify:  17. Simplify: 
8. Verify:  19. Verify
9. Verify: 
10. Use an addition or subtraction formula to find the exact value of 
11. Use an addition or subtraction formula to express as a trig function of one number.  .
12. Find an exact value of arcsin 0
13. Find an exact value of . 25. Evaluate: 
14. Use a calculator to evaluate: cot-1(3.24). 27. Find the exact value: 
15. Evaluate:  29. Evaluate: 
16. Rewrite the expression as an algebraic expression in x. sin(2cos-1x).
17. Find all the solutions: 
18. Find all the solutions: 
19. Find all the solutions: 
20. Use an addition or subtraction formula to simplify: .
21. Plot the point with polar coordinates 

**Find the slope of the tangent line to the graph of *f* using the** 

1. 
2. 

**Find y’**

1. .
2. 
3. 
4. What is the range of cotx and the domain of sinx?
5. Find the degree measure of .
6. Use the Law of Cosines to solve the triangle: a = 6.1, b = 8.2, c = 4.4.
7. Complete the following identity: .
8. Find the exact value of sin2x if .
9. Evaluate: .
10. Convert to polar coordinates: . 48. Convert to rectangular coordinates: .
11. In which quadrant is the terminal side of the angle ?
12. Identify the amplitude and the period of .
13. The minute hand on a clock is 15 cm long. Find the distance the minute hand travels when it rotates 100 degrees.
14. Problem #55 from pg 486. 53. Problem #39 from pg 514.
15. Problem #15a from pg 521. 55. Problem #2 pg 574.
16. Evaluate:  57. Evaluate: 

**Find the derivative of each function at the given value**

1. 
2. 
3. 
4. For the function *f* whose graph is given, state the value of the given quantity, if it exists.

