MATH 1113 PRACTICE TEST 3, FALL 2016

0. Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Without using a calculator graph one cycle of . To get credit you must make it clear how you determine the endpoints of the cycle you graph. State the amplitude.

2. Without using a calculator graph one cycle of . To get credit you must make it clear how you determine the endpoints of the cycle you graph. State the amplitude.

3. Without using a calculator find the exact value of .

4. Without using a calculator find the exact value of 

5. Write as an algebraic expression: 

Questions 6 and 7 use the following figure

*B*

*c*

*a*

*A*

*C*

*b*

6. Solve the triangle if  and . Round answers to three decimal places.

7. Solve the triangle if  and . Round answers to two decimal places.

8. Finding the height of a Flagpole. A flagpole is mounted on the edge of a tall building. From a point 30 feet from the bottom of the building the angle of elevation of the bottom of the flagpole is 60°, and the angle of elevation of the top of the flagpole is 70°. How tall is the flagpole?

9. . Establish the identity 

10. Establish the identity 

11. Establish the identity 

12. Using sum or difference formulas find exact values without using a calculator.

(a) tan 15° (b) sin 105° (c) cos 75°

13 Write as the sine or cosine of an angle

(a) cos 60° cos 20° + sin60° sin20° (b) sin 37° cos 13° − cos 37° sin 13°

14. Evaluate 