**Mathematics 3200**

**Test – Trig Identities Name:\_\_\_\_\_\_\_\_\_\_**

PART I: Place the correct response in the space provided to the right. [9]

1. Which represents the non-permissible values of *x* for the equation

1 – cot2 x · sin2 x = sin2 x? 1.\_\_\_

(A) (B)

(C) (D)

2. Which is the simplified form of the trigonometric expression

? 2.\_\_\_

(A) cot Ө (B) (C) –1 – tan Ө (D) tan Ө

3. Which represents the simplified form of

? 3.\_\_\_

(A) (B) cos x

(C) (D) cos x – sin x

4. What is the exact value of ? 4.\_\_\_

(A) 0 (B) (C)  (D) 

5. Which represents the simplified form of ? 5.\_\_\_

(A) (B) cot x

(C) –tan x (D) –cot x

6. What is the exact value of sin 2x if

and ? 6.\_\_\_

(A) (B) (C) (D)

7. Which represent the solutions for:

sin 2x = sin x where 0 ≤ x < 2π ? 7.\_\_\_

(A) (B)

(C) (D)

8. What is the exact value of ? 8.\_\_\_

(A) (B) (C) 0 (D) undefined

9. In which step is there an error when simplifying the expression

? 9.\_\_\_

Step 1:

Step 2:

Step 3:

Step 4: –tan2x

(A) Step 1 (B) Step 2 (C) Step 3 (D) Step 4

PART II: Answer each question in the space provided. Full marks will not be

rewarded without appropriate justification.

10. If where , and if where

then determine the exact value of sin(A – B). [5]

12. Prove the identity: [5]

13. Solve for x: cos 2x = 6 sin2x – 1 where 0 ≤ x < 2π. [5]