**Trigonometry II: Equations**

**Unit Test**

**Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Simplify: sin2 A – cos2 A

|  |  |  |  |
| --- | --- | --- | --- |
| A. -cos 2A | B. -1 | C. cos 2A | D. 1 |

1. Simplify: cos (180o + ) + cos (180o - )

|  |  |  |  |
| --- | --- | --- | --- |
| A. -2 | B. 1 | C. -2cos | D. 2cos |

1. The expression is equivalent to:

|  |  |  |  |
| --- | --- | --- | --- |
| A. cot x | B. – cot x | C. tan x | D. – tan x |

1. How many solutions does the equation 2 cos 3x = have on the interval 0 x 2?

|  |  |  |  |
| --- | --- | --- | --- |
| A. 2 | B. 4 | C. 6 | D. 8 |

1. The expression is equivalent to:

|  |  |  |  |
| --- | --- | --- | --- |
| A. – sin2 | B. sin2 | C. 1 - cos | D. cos2 |

1. Determine the general solution for sin 2x = 1.

A. x = + n, n is an integer

B. x = + n, n is an integer

C. x = + 2n, + 2n, n is an integer

D. x = + 2n, + 2n n is an integer

1. If the point (1, 3) lies on the terminal arm of an angle in standard position, determine the value of cos ( + ).
2. Solve algebraically, giving exact values, where 0 x 2.
3. csc x + 2 = 0
4. 2tan x sin x – tan x = 0
5. Verify for x = :

 =

1. Prove the identity:

 = cos x cot x