**Math 154 Midterm (#2) Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Use the given values to evaluate tan *x*. , 

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Use the given values to evaluate cos *x*. ​

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Use the fundamental identities to simplify. . Circle the correct answer.

​

|  |  |  |
| --- | --- | --- |
|  | a. | ​ |
|  | b. | ​ |
|  | c. | ​ |
|  | d. | ​ |
|  | e. | ​ |

1. If , evaluate ​cot *x*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Use fundamental identities to simplify the expression below as far as possible.

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Evaluate the following expressions:
2. cot2*t* (2 sec2*t* – 2) ` b)2 cos *x* + 2 sin *x* tan *x*

c)csc 5*x* – sin 5*x* d)

1. Solve the following equations, finding ALL solutions unless otherwise noted.

​

1.  c) 

​

1.  d) only solutions in the interval [0, 2π).

​



***Mid-midterm bonus! Find only the solutions in the interval [0, 2π).***

***​***

*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

1. Evaluate the following WITHOUT using a calculator, showing ALL steps in the process.

​

1.  b)

c) cos(105o) d) sin()

e) tan ()

***Another mini-bonus!!!***

***Find the exact value of  given that  and . (Both u and v are in Quadrant II, but the angle (u+v) is not!)***

***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

1. Simplify without using a calculator. Give your answers in exact form (no decimals)

a) 8sin75ocos15o b) tan2()

c) Find cos2*u*  given that 

1. Solve the following equations, giving ALL solutions unless otherwise noted.
2. cos(3x) + cos(x) = 0 b) Find solutions in the interval [0, 2p)



c) 

***And one final bonus: Simplify = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***Part 2 – Tell me why this “identity” (above) is bogus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***