Phys251 MathQuiz W03

Name: _____

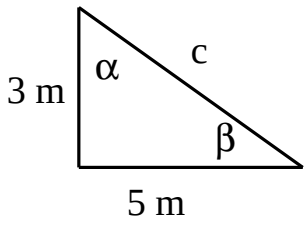
Show your work

SSN: _____

1. Solve the following system of equations and find x and y:
$x + 3y = 5$
$4x - 8y = 0$

2. Find the two roots of the following equation: $2x^2 - 4x - 70 = 0$

3. For the following right triangle, determine angle α, angle β, and hypotenuse c.



4. Perform the following definite integral:

$$\int_0^5 (x^2 + 5s + 3)dx = ?$$

5. What is the slope of the line determined by the following equation at point $x = 3$? (hint: take a derivative) At what value of x does y have a minimum?

$$y = 3x^2 - 4x + 5$$

6. What is the derivative of the function $\sin x$?
What is its second derivative ?

7. Draw a graph of the functions e^x and $\ln x$ (exponential and natural logarithm). Indicate where these functions cross the coordinate axes. Do these functions exist for all values of x ?