Instructions: Include all relevant work to get full credit.

Quiz #8

1. Find
$$\frac{dy}{dx}$$
 by implicit differentiation.
a. $5x^2 - 3y^2 = 10 - 3x\sqrt{y}$

b. $\sin(xy) = \cos(x+y)$

2. Find the derivative of the following functions (You don't have to simplify):

a.
$$f(x) = \sin^{-1}(3x^2) + \tan^{-1}(1-x)$$
 [2]

b. $g(x) = x^2 \sin^{-1} x + \cos^{-1}(\sin^{-1} x)$

[3]

[3]

[2]