

Math 161

Name (English) _____

Quiz 3.5

Name (Thai) _____

8/25/2014

Student ID _____

SHOW ALL WORK.

Find the derivative of the following functions.

1. (5 points) $f(x) = \frac{3}{x} + 5 \sin x$

$$\begin{aligned} f(x) &= \frac{3}{x} + 5 \sin x \\ &= 3x^{-1} + 5 \sin x \\ f'(x) &= (-3)x^{-2} + 5 \cos x \end{aligned}$$

2. (5 points) $f(x) = \sin x \cos x$

$$\begin{aligned} f'(x) &= (\sin x)(\cos x)' + (\cos x)(\sin x)' \\ &= (\sin x)(-\sin x) + (\cos x)(\cos x) \\ &= -\sin^2 x + \cos^2 x \end{aligned}$$