

Quiz 4 Key — MA16010 — September 18, 2017

Alden Bradford

Min	Mean	Max
1	3.9	5

1. (3 points) Find $\frac{dy}{dx}$ for each of the following functions. You do not need to simplify your answer.

(a) $y = (2x^2 + 5x)e^x$

(b) $y = \frac{5x + 3}{2\cos(x) - 1}$

(c) $y = \cos(x)\sin(x)$

(a) $\frac{dy}{dx} = (2x^2 + 5x)e^x + (4x + 5)e^x$

(b) $\frac{dy}{dx} = \frac{5(2\cos(x) - 1) - (5x + 3)(-2\sin(x))}{(2\cos(x) - 1)^2}$

(c) $\frac{dy}{dx} = \cos^2 x - \sin^2 x$

2. (2 points) For a certain function $f(x)$ (which you do not know), we do know that $f(3) = 2$ and $f'(3) = -4$. Write an equation for the line tangent to $f(x)$ at $x = 3$.

$y - 2 = -4(x - 3)$