

Math 131 Quiz 5

Name: BRIDEN

1. Find the derivative  $y'$  of the following functions:

a)  $y = x \ln x$

b)  $y = 5xe^{2x}$

c)  $y = (t^3 + 3)e^t$

2. Consider the function:  $w = \frac{4z}{1 + 5z}$ . Find

a)  $\frac{dw}{dz}$

b)  $\frac{d^2w}{dz^2}$

3. Find the equation of the tangent line to the graph

of:

$$f(x) = \frac{e^x}{1 + e^x} \text{ at } x = 0$$