Mathematics 122

Quiz #16 Name: Key

You must show your work to get full credit.

Let a, b, c be constants. Compute the following derivatives.

$y = a^3x^2 + be^x$ $\quad y' =$ $2a^3x + be^x$

$A = 2 \cdot 3^t$ $\quad \frac{dA}{dt} =$ $2 \cdot \ln(3) \cdot 3^t$

$q = 3e^{3p}$ $\quad \frac{dq}{dp} =$ $9e^{3p}$

$\frac{dq}{dp} = 3 \cdot 3e^{3p} = 9e^{3p}$

$f(x) = 3\ln(x)$ $\quad f'(x) =$ $\frac{3}{x}$

$w = e^a + 4c\ln(z)$ $\quad \frac{dw}{dz} =$ $\frac{4c}{z}$

$\frac{dw}{dz} = 0$

e^a is constant, so its derivative is zero