Math 151

Show Your Work! October 15, 2019 Name _____
Good Luck! Quiz #3 A (please print)

1. Quickies – just write the answer. A, B and C are constants. (1 point each)

(a) $D\left(\ln(Ax^2 + B)\right) =$ _____ (b) $\frac{d}{dt}\left(\cos(At + 5)\right) =$ _____

(c) $D\left(\sin^3(x)\right) =$ _____ (d) $D\left(\sqrt{5 + e^x}\right) =$ _____

2. Calculate the following derivatives. **Circle each answer.** (**Do NOT simplify** your answers.)
(3 points each)

(a) $\frac{d}{dt}\left((t^3 + \cos(t))^5 \right) =$

(b) $\frac{d}{dx}\left(e^{3x} \cdot \ln(2x) \right) =$

(c) $D\left(\frac{2 + e^{2x}}{x^3 + 5x}\right) =$

3. f(1) = 4 and f '(1) = 3. Then at x=1 $D(\ f^3(x)\ ) =$ _____ and $D(\ f(x^3)\ ) =$ _____
(4)

4. d is the age (in days) of a baby whale, and W(d) is the weight of the whale at day d. Explain in a clear complete sentence the meaning of **" W '(150) = 8.7 "** so someone who did not know calculus could understand.
(3)

Bonus (+1 if correct) What was Jean Taylor's undergraduate major OR what physical object did she study?