Math 151

Show Your Work! January 30, 2018 Name _____

Good Luck! Quiz #3 A (please print)

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

(a) $D(\sin(Ax+3)) =$ _____ (b) $D(\ln(Bx+5)) =$ _____

(c) $D\left(\sqrt{2+x^3}\right) =$ _____ (d) $D\left(\tan(x^5)\right) =$ _____

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

(a) $D\left((x^3+\cos(x))^5 \right) =$

(b) $\frac{d}{dx}\left(e^{Ax} \cdot \ln(Bx) \right) =$

(c) $\frac{d}{dt}\left(\sin\left(\frac{2}{x}\right)+\pi^3 \right) =$

3. f(1) = 3 and f '(1) = 2. Then at x=1 $D(\ f^2(x)\ ) =$ _____ and $D(\ f(x^3)\ ) =$ _____

(2)

4. The location of a bug at time t seconds is $x(t) = t^3 - t^2 + 2t \quad y(t) = 5 - 2t$ meters.

(3) (a) When t=1 $(\ x', y'\ ) =$_____

(3) (b) When t=1 the speed of the bug is _____