Math 157 - Quiz 5

Name _____

October 1, 2014

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (6 points) Determine each derivative.

   (a) $\dfrac{d}{dx}\left(5x^4 - 8x^3 + 4x - 1\right)$

   (b) $\dfrac{d}{dr}\left(\dfrac{7}{\sqrt{r}}\right)$

   (c) $\dfrac{d}{dt}\left(12t + 10e^{0.2t}\right)$

2. (3 points) Find an equation of the line tangent to the graph of $f(x) = 6 - 3x + 5x^2$ at the point where $x = 2$.

3. (1 points) What is the instantaneous rate of change of $s(t) = 5\ln(t) + 6e^t$ at the point where $t = 1$?