

Name: _____

Math 162 Analysis for the Business and Social Sciences – Crawford

Quiz 4-A

02 December 2016

Books and notes (in any form) are not allowed allowed. You may use the given formula sheet and calculator, *but you must show all your work.*

1. (4 pts) Find the derivative of $f(x) = (3x^4 + 5x^2 - 6x)(x^2 - 3x^3 + 7x)$.

[Do not simplify.]

2. (4 pts) Find $\frac{ds}{dt}$ for $s = \frac{4t^3 + 5t}{4 - 3t - t^2}$.

[Do not simplify.]

3. (4 pts) Find the slope of the tangent line to graph of $y = \sqrt{2x - 4}$ at $x = 10$.

4. (8 pts) Given $f(x) = (5x^2 + 1)^6$.

(a). Find $f'(x)$ and simplify.

(b). Find $f''(x)$. [Do not simplify.]