

Name _____

Homework 14
section 3.1

Be sure to use only algebra and material through section 3.1 for this assignment.

1. (4) Compute $f'(x)$ for $f(x) = 6x^3 - 5x^2 + 2x + 4$.

2. (4) Find $\frac{dy}{dx}$ if $y = \frac{x^2+1}{2x}$.

3. (4) If $g(x) = 13 - 8x + \sqrt{2}x^2$, find the value of a for which $g'(a) = 4$.

4. (4) Given the function $f(x) = \left(x^2 + \frac{1}{x}\right)^2$, find $f'(x)$.

5. (4) Given the function $y = \pi z^\pi$, find

(a) the derivative of y with respect to z

(b) $\left. \frac{dy}{dz} \right|_{z=1}$