

MA 181 WORKSHEET (3.1)

Name _____

Using only the constant, power, constant multiple, sum and difference rules, differentiate the following functions. *You may have to "rewrite" some of the functions to do so!!*

1. $y = 3x^4 + 5$

2. $g(x) = -4x^{2/3} - 9x$

3. $f(x) = \frac{\sqrt{10}}{x^7}$

4. $y = x^3(x^2 + 1)$

5. $h(x) = \frac{x^8 - 3\sqrt{x} + 2}{\sqrt{x}}$

6. $j(x) = (3x)^7$

7. $k(x) = 3x^\pi + \pi + \sqrt{3} + e^2 + \pi x + e^2 x + e^2 x^3$

8. Find all the inflection points of $f(x) = x^4 - 2x^2$.

9. Find all of the inflection points of $g(x) = x^4$.