

## Calculus Worksheet #3 Unit 1 \_\_\_\_\_

Use the rules of differentiation to find the derivative of each of the following functions. (Remember that if a function is not given in polynomial form, then you must first write the function in polynomial form and then find its derivative.)

1.  $f(x) = x^2 + 5x - 3$        $f'(x) =$  \_\_\_\_\_

2.  $f(x) = 3x^2 - 7x + 1$        $f'(x) =$  \_\_\_\_\_

3.  $f(x) = x^3 + 4x^2 + 6x - 2$        $f'(x) =$  \_\_\_\_\_

4.  $f(x) = -3x^2 + x$        $f'(x) =$  \_\_\_\_\_

5.  $f(x) = \frac{2}{3}x^3 + \frac{1}{2}x^2 - 7x - 3$        $f'(x) =$  \_\_\_\_\_

6.  $f(x) = \frac{3}{4}x^3 - \frac{5}{6}x^2 + \frac{7}{8}x$        $f'(x) =$  \_\_\_\_\_

7.  $f(x) = (2x + 3)^2$        $f'(x) =$  \_\_\_\_\_

8.  $f(x) = (x + 5)^3$        $f'(x) =$  \_\_\_\_\_

9.  $f(x) = (3x + 2)(5x^2 - 2x + 1)$        $f'(x) =$  \_\_\_\_\_

10.  $f(x) = (2x - 3)(4x^2 + 6x + 9)$        $f'(x) =$  \_\_\_\_\_