

**Practice Worksheet*****Derivatives and Differentiation Techniques****Find the derivative of each function.*

1.  $f(x) = 2x^2 - 3x$

2.  $f(x) = 6x^3 - 2x + 5$

3.  $f(x) = 3x^7 + 4x^5 - 2x^2$

4.  $f(x) = 3x^{15} - 12x^{10} + 7x^2 - 8$

5.  $f(x) = (2x + 7)(3x - 8)$

6.  $f(x) = (x^2 + 1)(3x - 2)$

7.  $f(x) = (x^2 + 5x)^2$

8.  $f(x) = (x^2 - 2x + 1)^3$

9.  $f(x) = x^2(x^3 + 3x^2)$

10.  $f(x) = (x^2 + 2x)(x^2 + 7x)$

11.  $f(x) = x^2(x^4 + 2x)^2$

12.  $f(x) = (x^2 + 3x)(x^2 + 2x)^2$

13.  $f(x) = \frac{x^2}{x-1}$

14.  $f(x) = \frac{x^2 - 3x + 1}{2x - 9}$

15.  $f(x) = \sqrt{2x^2 + 7x - 8}$

16.  $f(x) = \sqrt[3]{x^2 + 1}$

1.  $f(x) = x^3 - 2x^2 + x + 1$
2.  $f(x) = x^3 + 10x^2 + 25x - 50$
3.  $f(x) = 3x^4 - 4x^3 + 6$
4.  $f(x) = 8x^2 - 2x^4$
5.  $f(x) = 2x^6 - 6x^4$

1.  $f(x) = 5 - 7x - 4x^2$
2.  $f(x) = 6x^2 - 9x + 5$
3.  $f(x) = 2x^3 + x^2 - 20x + 1$
4.  $f(x) = x^3 - x^2 - 40x + 8$
5.  $f(x) = x^4 - 8x^2 + 1$
6.  $f(x) = x^3 - 3x^2 + 3x + 7$