

## Differentiation Rules

**Problem 1: Find the Derivative of the following Functions with respect to the variable x using the Power Rule:**

1)  $-4x^4$

2)  $3x^7 - 6x^{11}$

3)  $-3x^{-4} + 5x^{-2}$

**Problem 2: Find the Derivative of the following Functions with respect to the variable x using the Product Rule:**

1)  $4x^2(5x^{-2})$

2)  $17x^{-3}(-2x^4)$

**Problem 2: Find the Derivative of the following Functions with respect to the variable x using the Quotient Rule:**

1)  $\frac{4x^2}{5x^{-2}}$

2)  $\frac{-2x^4}{17x^{-3}}$