Name: _____
Date: _____
Class: _____

Algebra
Unit 6
HW 6-1

1) If $f(x) = 2x^3 + 7$, then $f(-1) = ?$ $f(-1) = 2(-1)^3 + 7$

$f(-1) = 5$

2) Simplify: $(3x^2)^2(2x^5)^3$

$(3^2x^4)(2^3x^{15})$

$(9x^4)(8x^{15}) = 72x^{19}$

3) Simplify (but leave in exponential form): $\frac{5^7}{5^3}$ 5^4

4) Simplify: $\frac{(5x^2y^3)^2}{(10xy)^2}$ $\frac{5^2x^4y^6}{10^2x^2y^2} = \frac{25x^4y^6}{100x^2y^2} = \frac{1}{4}x^2y^4$

5) Simplify: $\frac{x^4y}{xy^8}$ x^3y^{-7}

6) Simplify: $\frac{18x^4y^2}{3x^8y^5}$ $6x^{-4}y^{-3}$

7) Simplify: $\frac{(2xy^2)^2}{4(x^2y^3)^2}$ $\frac{2^2x^2y^4}{4x^4y^6} = \frac{4}{4}x^{-2}y^{-2}$

$= x^{-2}y^{-2}$

8) Simplify: $8x(2x^2 - 8x - 2) - 3x^3(2 + x + 3x^2) - 4x^2$

$8x^3 - 64x^2 - 16x - 6x^3 - 3x^4 - 9x^5 - 4x^2$

$-9x^5 - 3x^4 + 2x^3 - 68x^2 - 16x$