

**Assignment 1-2****Sec 1 H****Polynomials & Exponents****Unit 1****Adding & Subtracting** – Simplify each expression.

1.  $(3x^3 - 6x) + (9x^2 + 3x)$

2.  $(9y^3 - 4y^2 - 2y^2 + 4) - (3y^2 + 2y - 2)$

3.  $(2x^3 - 4x^2 + 6) - (4x^3 - 2x^2 - 9) + (7x^3 - 2x^3)$

4.  $\frac{1}{3}(3w^2 + 12w - 18) + \frac{2}{5}(10w^2 - 5w - 25)$

**Multiplying Polynomials** – Simplify each expression.

5.  $x(x+3)$

11.  $(z+6)(z+9)$

6.  $6y^2(y^3 + 2y + 8)$

12.  $(3d-2)(7d+6)$

7.  $(x-3)(x-6)$

13.  $\left(\frac{1}{2}y+6\right)(10y-8)$

8.  $(x-4)(x+8)$

14.  $(b-7)^2$

9.  $(x+5)(x-2)$

15.  $(x-6)^2$

10.  $(2x-6)(x+7)$

**Exponent Properties** – Simplify each expression.

16.  $b^3 \cdot b^9$

17.  $y^6 xy^3$

18.  $(-6)^{-2}$

19.  $6^{-3}$

20.  $\frac{b^3 b^6}{b^9}$

21.  $2b^3 b^4$

22.  $(8x^4 y^3)^2$

23.  $4x^0 y^2$

24.  $\frac{12x^2 y^3}{4xy}$

25.  $(x^4)(x^{-9})$

26.  $(-4b^{-3} a^6 c^{-12})^0$

27.  $5x^0$

28.  $\frac{x^{-3}}{x^{-2}}$

29.  $\frac{x^{-1}}{6^2}$

30.  $\frac{y^3}{y^{-2}}$

31.  $(3x^3 y)(2xy^4)^5$

32.  $\left(\frac{4x^3}{y^4}\right)^{-2}$