

## Section 2.2 – Arithmetic with Polynomials

### Problem Set 1

**Simplify the following expressions.**

1.  $7a^2 + 3a^2$

2.  $3x^3 - x - 4x + 1$

3.  $3y^3 + 2y^2 + 2$

4.  $3a^2 + b^2 + a^2 - 4b^2$

5.  $3x + 2x - 5x + 2x^2$

6.  $5p + 6q - (3p - 2q)$

7.  $7a - (2a + b)$

8.  $6r + 2s - (3r - 4s)$

9.  $t(-4x + 1)$

10.  $2x(4x + 3)$

11.  $ab^2(a + b - 2)$

12.  $x + x(x^3 + x - 1)$

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

14.  $(x - 1)(x - y)$

15.  $(s + t + 1)(-4t + 1)$

16.  $z^2(z - 1)(7z - 6)$

17.  $(a - 7)(4a + b)$

18.  $(-2x + 1)(-3x + 5)$

19.  $\left(\frac{4t}{5} - 2\right)\left(\frac{t}{6} - 1\right)$

20.  $.3p(p - 2)(2p + 3)$

21.  $h(6h - 1)(5h + 6)$

22.  $(x + 1)(x^2 + y^2 - 1)$

23.  $(5x + 3)(5x - 4)$

24.  $(6x - 1)(0.5x + 0.6)$

25.  $\left(\frac{a}{3} + \frac{1}{3}\right)\left(a - \frac{1}{3}\right)$

26.  $(6x - 5)(-2x + 3)$

27.  $(x - 7)(-5x^2 - 2x + 2)$

28.  $(x + 4y + 1)(x^2 - 3)$