

## Math 2 Unit 2.1 Examples of Add, Subtract, and Multiple polynomials

**Simplify each expression.**

1)  $(5v^3 + v) - (3v^3 - 7v^2)$

2)  $(6n - 4n^2) - (6 + 7n^2)$

3)  $(6r + 3r^3) + (3r - 7r^3) - (2r + 2r^3)$

4)  $(5n^3 + n^4) - (7n^4 + 8n^3) - (4n^4 + n^3)$

5)  $(2x^3 - x + 2x^2) + (5x^3 - 5x + 7x^2)$

6)  $(5v^3 + 7 - 3v) + (4v^3 - 5 - v)$

7)  $(7k^3 - 3 + 7k) + (7 + k^3 + 6k) - (k - 2k^3 - 6)$

8)  $(1 + 8x^3 + x^2) - (6 + 3x^2 - 7x^3) - (8 + 6x^2 - 4x^3)$

9)  $(b^2 - b + 8b^4 + 7) - (8b^4 - 2 - 5b - 2b^2)$

10)  $(6v^2 + 3v - 8v^3 + 3) + (8v^2 + 7v^4 + 6 + 4v^3)$

**Find each product.**

11)  $3(7n^2 + 7n - 8)$

12)  $8(3m^2 - 3m + 4)$

13)  $\frac{3}{4}\left(\frac{53}{8}n + \frac{5}{2}\right)$

14)  $\frac{7n}{6}\left(2n - \frac{7}{2}\right)$

15)  $(7k + 2)(4k - 5)$

16)  $(4x + 2)(4x - 4)$

17)  $\left(\frac{25}{6}x + \frac{3}{8}\right)\left(\frac{5}{3}x - \frac{5}{8}\right)$

18)  $\left(\frac{1}{7}k - \frac{5}{2}\right)\left(\frac{3}{4}k - \frac{3}{2}\right)$

19)  $(4x - y)(x - 3y)$

20)  $(3x + 5y)(3x - 6y)$

21)  $(4k^2 - k - 1)(6k^2 + 7k + 4)$

22)  $(5k^2 + 4k + 3)(3k^2 - 2k + 1)$

## Math 2 Unit 2.1 Examples of Add, Subtract, and Multiple polynomials

**Simplify each expression.**

1)  $(5v^3 + v) - (3v^3 - 7v^2)$

$2v^3 + 7v^2 + v$

2)  $(6n - 4n^2) - (6 + 7n^2)$

$-11n^2 + 6n - 6$

3)  $(6r + 3r^3) + (3r - 7r^3) - (2r + 2r^3)$

$-6r^3 + 7r$

4)  $(5n^3 + n^4) - (7n^4 + 8n^3) - (4n^4 + n^3)$

$-10n^4 - 4n^3$

5)  $(2x^3 - x + 2x^2) + (5x^3 - 5x + 7x^2)$

$7x^3 + 9x^2 - 6x$

6)  $(5v^3 + 7 - 3v) + (4v^3 - 5 - v)$

$9v^3 - 4v + 2$

7)  $(7k^3 - 3 + 7k) + (7 + k^3 + 6k) - (k - 2k^3 - 6)$

$10k^3 + 12k + 10$

8)  $(1 + 8x^3 + x^2) - (6 + 3x^2 - 7x^3) - (8 + 6x^2 - 4x^3)$

$19x^3 - 8x^2 - 13$

9)  $(b^2 - b + 8b^4 + 7) - (8b^4 - 2 - 5b - 2b^2)$

$3b^2 + 4b + 9$

10)  $(6v^2 + 3v - 8v^3 + 3) + (8v^2 + 7v^4 + 6 + 4v^3)$

$7v^4 - 4v^3 + 14v^2 + 3v + 9$

**Find each product.**

$$11) 3(7n^2 + 7n - 8)$$
$$21n^2 + 21n - 24$$

$$12) 8(3m^2 - 3m + 4)$$
$$24m^2 - 24m + 32$$

$$13) \frac{3}{4}\left(\frac{53}{8}n + \frac{5}{2}\right)$$
$$\frac{159}{32}n + \frac{15}{8}$$

$$14) \frac{7n}{6}\left(2n - \frac{7}{2}\right)$$
$$\frac{7}{3}n^2 - \frac{49}{12}n$$

$$15) (7k + 2)(4k - 5)$$
$$28k^2 - 27k - 10$$

$$16) (4x + 2)(4x - 4)$$
$$16x^2 - 8x - 8$$

$$17) \left(\frac{25}{6}x + \frac{3}{8}\right)\left(\frac{5}{3}x - \frac{5}{8}\right)$$
$$\frac{125}{18}x^2 - \frac{95}{48}x - \frac{15}{64}$$

$$18) \left(\frac{1}{7}k - \frac{5}{2}\right)\left(\frac{3}{4}k - \frac{3}{2}\right)$$
$$\frac{3}{28}k^2 - \frac{117}{56}k + \frac{15}{4}$$

$$19) (4x - y)(x - 3y)$$
$$4x^2 - 13xy + 3y^2$$

$$20) (3x + 5y)(3x - 6y)$$
$$9x^2 - 3xy - 30y^2$$

$$21) (4k^2 - k - 1)(6k^2 + 7k + 4)$$
$$24k^4 + 22k^3 + 3k^2 - 11k - 4$$

$$22) (5k^2 + 4k + 3)(3k^2 - 2k + 1)$$
$$15k^4 + 2k^3 + 6k^2 - 2k + 3$$