

Study Guide for Polynomials Unit 1

Date _____ Period _____

Simplify each expression.

1) $(3a^3 - 5a) + (a^3 + 8a)$

$4a^3 + 3a$

2) $(4x^2 - 3x) - (4x + 5x^2)$

$-x^2 - 7x$

3) $(5n^4 - n - 7) + (n^4 + 2n + 7)$

$6n^4 + n$

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

$15x^4 + 3x^3 + 10$

5) $(8 - 3n - 6n^3 - 7n^2) - (7 - 6n^2 + 3n)$

$-6n^3 - n^2 - 6n + 1$

6) $(5 - 2b^4 + 2b^3 + 5b^2) - (4 + 7b^4 + 7b^2)$

$-9b^4 + 2b^3 - 2b^2 + 1$

7) $(8m^3 - 3m^2 - 6 - 2m) - (6m^4 - 5m + 8m^3 - 8m^2) + (m^3 + 3m^4 + 8m^2)$

$-3m^4 + m^3 + 13m^2 + 3m - 6$

8) $(7x - x^4 + 6x^2 - 1) - (1 - x^2 - x^4 - 5x) + (6x + 5x^3 + 4)$

$5x^3 + 7x^2 + 18x + 2$

Find each product.

9) $2(4b + 7)$

$8b + 14$

10) $4r^2(8r + 3)$

$32r^3 + 12r^2$

$$11) (3n + 5)(n - 5)$$

$$3n^2 - 10n - 25$$

$$12) (8x + 1)(5x - 3)$$

$$40x^2 - 19x - 3$$

$$13) (7k - 3)(6k + 5)$$

$$42k^2 + 17k - 15$$

$$14) (4k + 5)(6k + 5)$$

$$24k^2 + 50k + 25$$

$$15) (4m^2 + 8m - 1)(5m - 4)$$

$$20m^3 + 24m^2 - 37m + 4$$

$$16) (3n^2 - 3n - 1)(8n + 1)$$

$$24n^3 - 21n^2 - 11n - 1$$

$$17) (3m^2 + m + 1)(2m + 4)$$

$$6m^3 + 14m^2 + 6m + 4$$

$$18) (2m^2 - m + 3)(7m + 1)$$

$$14m^3 - 5m^2 + 20m + 3$$

$$19) (7x^2 + 5x + 5)(4x^2 + 3x + 7)$$

$$28x^4 + 41x^3 + 84x^2 + 50x + 35$$

$$20) (2p^2 - p - 2)(3p^2 + 3p - 5)$$

$$6p^4 + 3p^3 - 19p^2 - p + 10$$

$$21) (5x^2 - 3x + 4)(4x^2 + 3x + 4)$$

$$20x^4 + 3x^3 + 27x^2 + 16$$

$$22) (3x^2 + x + 7)(7x^2 + 5x - 8)$$

$$21x^4 + 22x^3 + 30x^2 + 27x - 56$$