

Assignment 4.1

IM3

Name

KEY

Ms. Peralta

I. Adding and Subtracting Polynomials

Simplify each expression.

$$1) (5p^2 - 3) + (2p^2 - 3p^3) \\ -3p^3 + 7p^2 - 3$$

$$2) (a^3 - 2a^2) - (3a^2 - 4a^3) \\ 5a^3 - 5a^2$$

$$3) (4 + 2n^3) + (5n^3 + 2) \\ 7n^3 + 6$$

$$4) (4n - 3n^3) - (3n^3 + 4n) \\ -6n^3$$

$$5) (3a^2 + 1) - (4 + 2a^2) \\ a^2 - 3$$

$$6) (4r^3 + 3r^4) - (r^4 - 5r^3) \\ 2r^4 + 9r^3$$

$$7) (5a + 4) - (5a + 3) \\ 1$$

$$8) (3x^4 - 3x) - (3x - 3x^4) \\ 6x^4 - 6x$$

$$9) (-4k^4 + 14 + 3k^2) + (-3k^4 - 14k^2 - 8) \\ -7k^4 - 11k^2 + 6$$

$$10) (3 - 6n^5 - 8n^4) - (-6n^4 - 3n - 8n^5) \\ 2n^5 - 2n^4 + 3n + 3$$

$$11) (12a^5 - 6a - 10a^3) - (10a - 2a^5 - 14a^4) \\ 14a^5 + 14a^4 - 10a^3 - 16a$$

$$12) (8n - 3n^4 + 10n^2) - (3n^2 + 11n^4 - 7) \\ -14n^4 + 7n^2 + 8n + 7$$

$$13) (-x^4 + 13x^5 + 6x^3) + (6x^3 + 5x^5 + 7x^4) \\ 18x^5 + 6x^4 + 12x^3$$

$$14) (9r^3 + 5r^2 + 11r) + (-2r^3 + 9r - 8r^2) \\ 7r^3 - 3r^2 + 20r$$

$$15) (13n^2 + 11n - 2n^4) + (-13n^2 - 3n - 6n^4) \\ -8n^4 + 8n$$

$$16) (-7x^5 + 14 - 2x) + (10x^4 + 7x + 5x^5) \\ -2x^5 + 10x^4 + 5x + 14$$

$$17) (7 - 13x^3 - 11x) - (2x^3 + 8 - 4x^5) \\ 4x^5 - 15x^3 - 11x - 1$$

$$18) (13a^2 - 6a^5 - 2a) - (-10a^2 - 11a^5 + 9a) \\ 5a^5 + 23a^2 - 11a$$

$$19) (3v^5 + 8v^3 - 10v^2) - (-12v^5 + 4v^3 + 14v^2) \\ 15v^5 + 4v^3 - 24v^2$$

$$20) (8b^3 - 6 + 3b^4) - (b^4 - 7b^3 - 3) \\ 2b^4 + 15b^3 - 3$$

$$21) (k^4 - 3 - 3k^3) + (-5k^4 + 6k^3 - 8k^5) \\ -8k^5 - 4k^4 + 3k^3 - 3$$

$$22) (-10k^2 + 7k + 6k^4) + (-14 - 4k^4 - 14k) \\ 2k^4 - 10k^2 - 7k - 14$$

$$23) (-7n^2 + 8n - 4) - (-11n + 2 - 14n^2) \\ 7n^2 + 19n - 6$$

$$24) (14p^4 + 11p^2 - 9p^5) - (-14 + 5p^5 - 11p^2) \\ -14p^5 + 14p^4 + 22p^2 + 14$$

$$25) (8k + k^2 - 6) - (-10k + 7 - 2k^2) \\ 3k^2 + 18k - 13$$

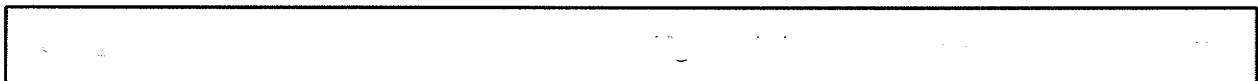
$$26) (-9v^2 - 8u) + (-2uv - 2u^2 + v^2) + (-v^2 + 4uv) \\ -9v^2 + 2uv - 2u^2 - 8u$$

$$27) (4x^2 + 7x^3y^2) - (-6x^2 - 7x^3y^2 - 4x) - (10x + 9x^2) \\ 14x^3y^2 + x^2 - 6x$$

$$28) (-5u^3v^4 + 9u) + (-5u^3v^4 - 8u + 8u^2v^2) + (-8u^4v^2 + 8u^3v^4) \\ -2u^3v^4 - 8u^4v^2 + 8u^2v^2 + u$$

$$29) (-9xy^3 - 9x^4y^3) + (3xy^3 + 7y^4 - 8x^4y^4) + (3x^4y^3 + 2xy^3) \\ -8x^4y^4 - 6x^4y^3 + 7y^4 - 4xy^3$$

$$30) (y^3 - 7x^4y^4) + (-10x^4y^3 + 6y^3 + 4x^4y^4) - (x^4y^3 + 6x^4y^4) \\ -9x^4y^4 - 11x^4y^3 + 7y^3$$



II. Multiplying Polynomials**Find each product.**

1) $6v(2v + 3)$
 $12v^2 + 18v$

2) $7(-5v - 8)$
 $-35v - 56$

3) $2x(-2x - 3)$
 $-4x^2 - 6x$

4) $-4(v + 1)$
 $-4v - 4$

5) $(2n + 2)(6n + 1)$
 $12n^2 + 14n + 2$

6) $(4n + 1)(2n + 6)$
 $8n^2 + 26n + 6$

7) $(x - 3)(6x - 2)$
 $6x^2 - 20x + 6$

8) $(8p - 2)(6p + 2)$
 $48p^2 + 4p - 4$

9) $(6p + 8)(5p - 8)$
 $30p^2 - 8p - 64$

10) $(3m - 1)(8m + 7)$
 $24m^2 + 13m - 7$

11) $(2a - 1)(8a - 5)$
 $16a^2 - 18a + 5$

12) $(5n + 6)(5n - 5)$
 $25n^2 + 5n - 30$

$$13) (4p - 1)^2 \\ 16p^2 - 8p + 1$$

$$14) (7x - 6)(5x + 6) \\ 35x^2 + 12x - 36$$

$$15) (6n + 3)(6n - 4) \\ 36n^2 - 6n - 12$$

$$16) (8n + 1)(6n - 3) \\ 48n^2 - 18n - 3$$

$$17) (6k + 5)(5k + 5) \\ 30k^2 + 55k + 25$$

$$18) (3x - 4)(4x + 3) \\ 12x^2 - 7x - 12$$

$$19) (4a + 2)(6a^2 - a + 2) \\ 24a^3 + 8a^2 + 6a + 4$$

$$20) (7k - 3)(k^2 - 2k + 7) \\ 7k^3 - 17k^2 + 55k - 21$$

$$21) (7r^2 - 6r - 6)(2r - 4) \\ 14r^3 - 40r^2 + 12r + 24$$

$$22) (n^2 + 6n - 4)(2n - 4) \\ 2n^3 + 8n^2 - 32n + 16$$

$$23) (6n^2 - 6n - 5)(7n^2 + 6n - 5) \\ 42n^4 - 6n^3 - 101n^2 + 25$$

$$24) (m^2 - 7m - 6)(7m^2 - 3m - 7) \\ 7m^4 - 52m^3 - 28m^2 + 67m + 42$$