

Name **Answers!**

Date _____ Period _____

DIRECTIONS: For #1-2, simplify.

1. $5 + 8w^3 - 6w^2 - 2w^3 + 4w^2$

$$6w^3 - 2w^2 + 5$$

2. $7x^2y^2 - 2x^3y^2 + 9 - 3x^2y^2 - x^3y^2$

$$-3x^3y^2 + 4x^2y^2 + 9$$

DIRECTIONS: For #3-6, simplify by adding or subtracting as indicated.

3. $(12n + 7) + (3n - 5)$

$$15n + 2$$

4. $(12n + 7) - (3n - 5)$

$$9n + 12$$

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

$$6y^3 + 2y^2 - 3y + 2$$

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

$$6y^3 - 2y^2 + 11y - 8$$

DIRECTIONS: For #7-15, simplify. Assume that variable exponents represent positive integers.

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

$$3n^2 + 43$$

8. $3x(y + z) + 7x(y + z) + 2xy$

$$12xy + 10xz$$

9. $4c^3(6c)$

$$24c^4$$

10. $(-x^2y^3)^6$

$$x^{12}y^{18}$$

11. $5n(7m^5n)$

$35m^5n^2$

12. $r^3(3rt - 8r^2)$

$3r^4t - 8r^5$

13. $3x^m(4x^5)$

$12x^{m+5}$

14. $x^9(x^{k-2})^4$

x^{4k+1}

15. $9a(2ab^4)^2$

$36a^3b^8$

DIRECTIONS: For #16-22, multiply. Assume that variable exponents represent positive integers.

16. $(2n + 3)(n - 6)$

$2n^2 - 9n - 18$

17. $(5p + 3)^2$

$25p^2 + 30p + 9$

18. $(2x - 5y)(2x + 5y)$

$4x^2 - 25y^2$

19. $(3p - 6)(p + 5)$

$3p^2 + 9p - 30$

20. $(n^2 - 3)(n^2 + n - 5)$

21. $(x^m + 3)(x^m - 3)$

$$n^4 + n^3 - 8n^2 - 3n + 15$$

$$x^{2m} - 9$$

22. $w^3(w - 5)(w + 2)$

$$w^5 - 3w^4 - 10w^3$$

DIRECTIONS: For #23-24, answer the questions in the provided blanks.

23. What is the degree of
 $8x^3 + 4x^2 - 11x + 2$?

3

24. Using exactly three variables, write a monomial (one term) with a **degree of 9**.

$a^2b^4c^3$ or ab^2c^6 , for example
(many possible answers)