

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

**DIRECTIONS:** For #1-2, simplify.

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

\_\_\_\_\_

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

\_\_\_\_\_

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

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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