

## Practice with Polynomials

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

Consider the polynomial  $3x - 2x^3 + 4x^2 - 1$  to answer #1 - 4.

1. Write the polynomial in standard form.
2. State the degree of the polynomial. How would you name the polynomial based on this degree?
3. State the leading coefficient.
4. How would you name the polynomial based on its number of terms?

**Simplify. Write your answer in standard form.**

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

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

6.  $(y + 2)(y - 2)$

7.  $(12x^2 - 8x + 4) - (9x^2 + 5x + 1)$

8.  $(x + 9)(x - 9)$

9.  $(2x + 5)^2$

$$10. (3x^3 + 10x - 15) - (-x^3 + 2x^2 + 6x - 9)$$

$$11. (x + 5)(x^2 - 7x + 4)$$

$$12. (n^2 + 6n - 4)(2n - 4)$$

$$13. (x^2 + 3x + 2) - (3x - 2)$$

$$14. (x^2 + 3x + 4) + (-2x^2 + 10x - 5)$$

$$15. 6x^2(2x^2 + 4x - 5)$$

$$16. (x - 5)(x + 1)$$

$$17. (2b^3 - 2b) + (b^3 + 6b^2 + 3b - 7)$$

$$18. (6k + 5)(5k + 5)$$

$$19. (x + 4)(x - 6)$$

$$20. (6x - 3)(4x - 1)$$

$$21. (5xy^4 - 3xy^2 + 4x^2y - 10) + (2x^2y - 5xy^4 + 10)$$