

9.1 – 9.2 Review

Name: _____

Write each polynomial in standard form. Then, name each polynomial based on its degree and the number of its terms.

1. $6x^2 + 7x^4$

2. $3y - 4 - y^3$

3. $8 + 7v - 11v$

4. $3x^5 - 2 - 2x^5 + 7x$

5. $5 - 2x$

6. $3x^4 - 4 + 2x^2 + 5x^4$

Simplify. Write each answer in standard form.

7. $(3x^2 - 2x + 9) - (x^2 - x + 7)$

8. $(2x^2 - 2x^3 - 7) + (9x^2 + 2 + x)$

9. $(2x^2 + 3 - x) - (2 + 2x^2 - 5x)$

10. $(x^3 + 3x) - (x^2 + 6 - 4x)$

11. $(6x^2 - 3x + 9) - (x^2 + 3x - 5)$

12. $(x^2 + 15x + 13) + (3x^2 - 15x + 7)$

Simplify each product.

$$13. 4b(b^2 + 3)$$

$$14. 9c(c^2 - 3c + 5)$$

$$15. 8m(4m - 5)$$

$$16. 5k(k^2 + 8k)$$

$$17. -3x(x^2 + 3x - 1)$$

$$18. -x(1 + x + x^2)$$

Factor each polynomial.

$$19. t^6 + t^4 - t^5 + t^2$$

$$20. 3m^2 - 6 + 9m$$

$$21. 16c^2 - 4c^3 + 12c^5$$

$$22. 8v^6 + 2v^5 - 10v^9$$

$$23. 6n^2 - 3n^3 + 2n^4$$

$$24. 5r + 20r^3 + 15r^2$$