Unit 2 Quiz 1 Review

Write each polynomial in standard form. Identify the leading coefficient, degree and number of terms.

1. $3x^2 + 6x - 3x^3 + 4$

2. $2x - 5 + 3x - 2$

3. $5x^5 - 3x^3 - x^4$

Add or subtract.

4. $(3x^2 - 6x + 8) - (4x^2 + 5x - 9)$

5. $(3x^2 + 1) + (4x^2 + 3)$

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

7. $(5a^5 - a^4) + (a^5 + 7a^4 - 2)$

Multiply.

8. $3x^3(27x^3 + 8y^3)$

9. $2cd^4(-4c^6d^5 - c^3d)$

10. $(a + b)(3ab + b^2 - 4a)$

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

12. $(2x - 3)^2(x - 1)$

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

Expand using Pascal's Triangle.

14. $(x + 4)^4$

15. $(x - 5)^3$

16. $(2x + 4)^4$

17. $(x - 3y)^3$

Find the coefficient for the following expansion.

18. x^2y^3 in the expansion $(x + 2y)^5$

19. y^3 in the expansion $(2 - 3y)^4$

Find the term of the following expansion.

20. 4th term of the expansion $(x - 2y)^4$

21. 3rd term of the expansion $(2x + 3y)^5$

Simplify.

22. $-i + (8 - 2i) - (5 - 9i)$

23. $(3i)(6 + 5i)$

24. $(3i)(6i^3)$

25. $4i^{24} + 3i^3 - 12i + 16$

26. $(2 + 3i)^4$

27. $\dfrac{4 + 2i}{2 + 4i} - (2 + i)$