Practice

Adding and Subtracting Polynomials

Find each sum or difference.

1. $(4y + 5) + (-7y - 1)$

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

3. $(4k^2 + 8k + 2) - (2k + 3)$

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

5. $(2w^2 - 3w + 1) + (4w - 7)$

6. $(g^3 + 2g^2) - (6g - 4g^2 + 2g^3)$

7. $(5a^2 + 6a + 2) - (7a^2 - 7a + 5)$

8. $(-4p^2 - p + 9) + (p^2 + 3p - 1)$

9. $(x^3 - 3x + 1) - (x^3 + 7 - 12x)$

10. $(6c^2 - c + 1) - (-4 + 2c^2 + 8c)$

11. $(-b^3 + 8bc^2 + 5) - (7bc^2 - 2 + b^3)$

12. $(5n^2 - 3n + 2) + (-n + 2n^2 - 4)$

13. $(4y^2 + 2y - 8) - (7y^2 + 4 - y)$

14. $(w^2 - 4w - 1) + (-5 + 5w^2 - 3w)$

15. $(4u^2 - 2u - 3) + (3u^2 - u + 4)$

16. $(5b^2 - 8 + 2b) - (b + 9b^2 + 5)$

17. $(4d^2 + 2d + 2) + (5d^2 - 2 - d)$

18. $(8x^2 + x - 6) - (-x^2 + 2x - 3)$

19. $(3h^2 + 7h - 1) - (4h + 8h^2 + 1)$

20. $(4m^2 - 3m + 10) + (m^2 + m - 2)$

21. $(x^2 + y^2 - 6) - (5x^2 - y^2 - 5)$

22. $(7t^2 + 2 - t) + (t^2 - 7 - 2t)$

23. $(k^3 - 2k^2 + 4k + 6) - (-4k + k^2 - 3)$

24. $(9j^2 + j + jk) + (-3j^2 - jk - 4j)$

25. $(2x + 6y - 3z) + (4x + 6z - 8y) + (x - 3y + z)$

26. $(6f^2 - 7f - 3) - (5f^2 - 1 + 2f) - (2f^2 - 3 + f)$

27. **BUSINESS** The polynomial $s^3 - 70s^2 + 1500s - 10{,}800$ models the profit a company makes on selling an item at a price s. A second item sold at the same price brings in a profit of $s^3 - 30s^2 + 450s - 5000$. Write a polynomial that expresses the total profit from the sale of both items.

28. **GEOMETRY** The measures of two sides of a triangle are given. If P is the perimeter, and $P = 10x + 5y$, find the measure of the third side.

$3x + 4y$

$5x - y$