

Complete each of the following exercises. Show all work for credit.

Practice 9-1

Adding and Subtracting Polynomials

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

1. $4y^3 - 4y^2 + 3 - y$

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

3. $x + 2$

16. $x - 6x^2 - 3$

17. $v^3 - v + 2v^2$

18. $8d + 3d^2$

Simplify. Write each answer in standard form.

19. $(3x^2 - 5x) - (x^2 + 4x + 3)$

20. $(2x^3 - 4x^2 + 3) + (x^3 - 3x^2 + 1)$

33. $(3x^3 + 7x^2) + (x^2 - 2x^3)$

34. $(6c^2 + 5c - 3) - (3c^2 + 8c)$

57. $(2x + 3) - (x - 4) + (x + 2)$

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

Practice 9-2

Multiplying and Factoring

Simplify each product.

1. $4(a - 3)$

2. $-5(x - 2)$

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

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

5. $-5x^2(x^2 + 2x + 1)$

6. $3x(x^2 - 5x - 3)$

Find the GCF of the terms of each polynomial.

13. $8x - 4$

14. $15x + 45x^2$

15. $x^2 + 3x$

22. $25x^3 - 15x^2$

23. $11x^2 - 33x$

24. $4n^4 + 6n^3 - 8n^2$

Factor each polynomial.

31. $6h^2 - 8h$

32. $3z^4 - 15z^3 - 9z^2$

33. $3y^3 - 8y^2 - 9y$

46. $18c^4 - 9c^2 + 7c$

47. $6y^4 + 9y^3 - 27y^2$

48. $6c^2 - 3c$

Practice 9-3

Multiplying Binomials

Simplify each product. Write in standard form.

4. $(x + 5)(x + 4)$

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

6. $(a - 11)(a + 5)$

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

11. $(5x - 3)(4x + 2)$

12. $(3y + 7)(4y + 5)$

43. $(4x - 7)(2x - 5)$

44. $(x - 9)(3x + 5)$

45. $(2x - 1)(x^2 - 7x + 1)$

Practice 9-4

Multiplying Special Cases

Simplify.

3. $(4w + 2)^2$

4. $(w - 9)^2$

9. $(6x + 1)^2$

10. $(4x - 7)^2$

17. $(6x + 1)(6x - 1)$

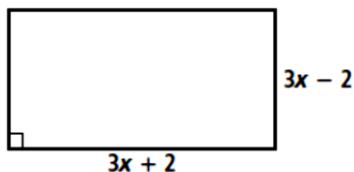
18. $(2x - 4)(2x + 4)$

25. $(3y + 2a)(3y - 2a)$

26. $(x^2 + 2y)(x^2 - 2y)$

Find the area.

38.



Find the area of the shaded region.

39.

