MODULE 6 Polynomials

LESSON 6-1

Practice and Problem Solving: A/B

1. 2
2. 7
3. 11
4. $-4x^3 + x^2 + 7x + 6$; -4; 3; 4
5. $2x^5 + 7x^4 + x^2 - 12x - 3$; 2; 5; 5
6. $11x^3 + x^2 + 3x + 4$
7. $-3x^3 - 8x^2 + 6x - 4$
8. $3x^4 + x^3 + 10x^2 + 7$
9. $-x^7 + 21x^2 + 9x - 6$
10. a. $-0.1t^2 + 6t + 67$
    b. \$99,400

Lesson 6-2

Practice and Problem Solving: A/B

1. $12x^4 + 4x^2$
2. $-9x^3 - 18x^2 - 36x$
3. $-6x^5 - 42x^4 + 24x^3 - 18x^2$
4. $-4x^6 + 10x^5 - 7x^4 + 2x^3$
5. $-35m^3n^4 + 10m^4n^3 - 30m^3$
6. $xy^2 + 2xy - 12x + 2y^2 + 4y - 24$
7. $4p^3 - p^2 + 4p^2q - 2pq - 8pq^2 - q^2 - 8q^3$
8. $2x^2y^2 + 6x^3 + xy^3 + 3x^2y - y^3 - 3xy$
9. $27x^3 - 27x^2 + 9x - 1$
10. $x^4 - 16x^3 + 96x^2 - 256x + 256$
11. $3a^2 - 24ab + 48b^2$
12. $5x^6 - 30x^4y + 60x^2y^2 - 40y^3$
13. $8y^5 + 14y^4 + 7y^3 + y^2$

LESSON 6-3

Practice and Problem Solving: A/B

1. $x^3 + 3x^2y + 3xy^2 + y^3$
2. $16x^4 + 32x^3y + 24x^2y^2 + 8xy^3 + y^4$
3. $m^3 + 9m^2n + 27mn^2 + 27n^3$
4. $p^5 + 5p^4q + 10p^3q^2 + 10p^2q^3 + 5pq^4 + q^5$
5. a. 0.015
   b. 0.13
6. a. 0.004
   b. 0.33
7. 0.17
8. 0.65

LESSON 6-4

Practice and Problem Solving: A/B

1. $3(n+4)(n-4)$
2. $3x(x+5)(x-5)$
3. $\left(3m^2 + 4\right)\left(3m^2 - 4\right)$
4. $\left(4r^2 + 3\right)\left(4r^2 - 3\right)$
5. $3\left(n^3 + 2\right)\left(n^3 - 2\right)$
6. $\left(x^3 + 3\right)\left(x^3 - 3\right)$
7. $3b\left(b^3 + 2\right)^2$
8. $2\left(5v^3 + 3\right)^2$
9. $(x-4)\left(x^2 + 4x + 16\right)$
10. $(x-5)\left(x^2 + 5x + 25\right)$
11. $(x-2)\left(x^2 + 2x + 4\right)(x+2)\left(x^2 - 2x + 4\right)$
12. $(x-1)\left(x^2 + x + 1\right)(x+1)\left(x^2 - x + 1\right)$
13. $(n^2 + 7)(8n - 7)$
14. $(x^2 - 3)(5x - 6)$
15. $(3r^2 - 7)(3r + 1)$
16. $5(5v^2 - 3)(v + 1)$
17. $5(3b^2 + 5)(8b + 7)$
18. $8(5x^2 - 7)(3x - 2)$
19. $4(2x + 3)$ ft; 28 ft

LESSON 6-5

Practice and Problem Solving: A/B

1. $x + 2$

2. $2x^2 + 1$

3. $-3x + 2$

4. $3x^2 - \dfrac{14}{x + 3}$

5. $3x - 2$

6. $5x - 19 + \dfrac{69}{x + 3}$

7. $9x + 2 + \dfrac{5}{x - 1}$

8. $-6x + 47 + \dfrac{339}{x + 7}$

9. $P(3) = 11$

10. $P(-2) = -36$

11. Yes

12. No

13. $2t + 10$