

Extra Practice

Lesson 9-2

(pages 481–486)

Factor each polynomial. 8–15. See margin.

1. $10a^2 + 40a$ **$10a(a + 4)$**

4. $11x + 44x^2y$ **$11x(1 + 4xy)$**

7. $25a^2b^2 + 30ab^3$ **$5ab^2(5a + 6b)$**

10. $6mx - 4m + 3rx - 2r$

13. $8ac - 2ad + 4bc - bd$

2. $15wx - 35wx^2$ **$5wx(3 - 7x)$**

5. $16y^2 + 8y$ **$8y(2y + 1)$**

8. $2m^3n^2 - 16mn^2 + 8mn$

11. $3ax - 6bx + 8b - 4a$

14. $2e^2g + 2fg + 4e^2h + 4fh$

3. $27a^2b + 9b^3$ **$9b(3a^2 + b^2)$**

6. $14mn^2 + 2mn$ **$2mn(7n + 1)$**

9. $2ax + 6xc + ba + 3bc$

12. $a^2 - 2ab + a - 2b$

15. $x^2 - xy - xy + y^2$

Solve each equation. Check your solutions.

16. $a(a - 9) = 0$ **{0, 9}**

17. $d(d + 11) = 0$ **{−11, 0}**

19. $(2y + 6)(y - 1) = 0$ **{−3, 1}**

20. $(4n - 7)(3n + 2) = 0$ **{ $-\frac{2}{3}, \frac{7}{4}$ }**

22. $10x^2 - 20x = 0$ **{0, 2}**

23. $8b^2 - 12b = 0$ **{0, 1.5}**

25. $15a^2 = 60a$ **{0, 4}**

26. $33x^2 = -22x$ **{ $-\frac{2}{3}, 0$ }**

18. $z(z - 2.5) = 0$ **{0, 2.5}**

21. $(a - 1)(a + 1) = 0$ **{−1, 1}**

24. $14d^2 + 49d = 0$ **{0, −3.5}**

27. $32x^2 = 16x$ **{0, $\frac{1}{2}$ }**

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8. $2mn(m^2n - 8n + 4)$

12. $(a + 1)(a - 2b)$

9. $(2x + b)(a + 3c)$

13. $(2a + b)(4c - d)$

10. $(2m + r)(3x - 2)$

14. $2(e^2 + f)(g + 2h)$

11. $(3x - 4)(a - 2b)$

15. $(x - y)(x - y)$