

2.3

Practice A

For use with pages 78–83

1. Describe and correct the error in the solution.

$$\begin{array}{l}
 \times \quad 4d + 9d - (7 - 6d) = 4d + 9d - 7 - 6d \\
 \quad \quad \quad = 4d + 9d - 6d - 7 \\
 \quad \quad \quad = 7d - 7
 \end{array}$$

For the given expression, identify the terms, like terms, coefficients, and constant terms. Then simplify the expression.

2. $6a + 3 - 5 + 4a$ 3. $2 - 3y + 10y - 14$ 4. $7b - b + 8 + 10b$
 5. $c - 9 + 9c + 15$ 6. $11z + 3z - 4z + 17$ 7. $-8m + 16m - 24 - 32$

Simplify the expression.

8. $4x + 3(x + 1) + 5$ 9. $7z - 4 + 6(2z - 9)$ 10. $-12 - 5p + 4(6p + p)$
 11. $-(w + 8) - 16w + 7$ 12. $-(j + 9) - 13j + 12$ 13. $-4(2r - 2) + 15r - 18$
 14. $-5(x^2 + 3) - 8 - 10x^2$ 15. $2(7 - t) + 14t - 11$ 16. $9(8 - 6v^2) - 12v^2 + 20$
 17. $24 - 14f + 2(4f - 10)$ 18. $-19h + 5 + 3(-h - 12)$ 19. $27 - 11k^2 - 7(k^2 - 14)$

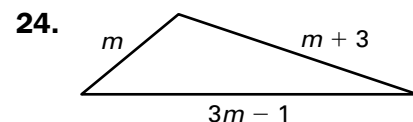
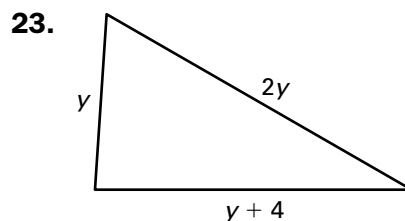
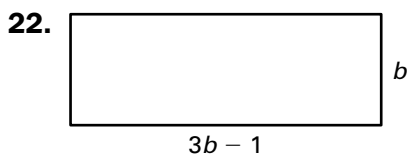
20. While training for soccer, you work out each day after school. During your workout, you lift weights and play soccer for a total of 75 minutes. You burn 7 calories per minute when playing soccer and 3 calories per minute when lifting weights.

- a. Let t be the time in minutes you play soccer. Write and simplify an expression in terms of t for the total calories you burn during your workout.
 b. Find the total number of calories burned if you play soccer for 55 minutes.

21. You are purchasing pens and pencils to be sold at the school store. You need a total of 50 boxes of pens and pencils. The pens cost \$3 per box and the pencils cost \$2 per box.

- a. Let p be the number of boxes of pens you purchase. Write and simplify an expression in terms of p for the total cost of the pens and pencils.
 b. Find the total cost of the pens and pencils when you purchase 15 boxes of pens.

Write and simplify an expression for the perimeter of the triangle or rectangle.



Lesson 2.2 *continued*

Review for Mastery

1. $2(5 + 4)$; $2 \cdot 5 + 2 \cdot 4$; \$18 2. 985
 3. 385 4. 52.16 5. 62.86 6. $84x + 96$
 7. $27y - 3$ 8. $-45z - 30$ 9. $-88m + 72$
 10. $(21x + 35)$ square units
 11. $(12x - 9)$ square units

Challenge Practice

1. 84 2. 12 3. 5 4. $(6x - 12)$ square units
 5. $(6x + 20)$ square units 6. $2y^2 - 22y$
 7. $7a^2 - a$ 8. $-6xy$ 9. $11x - 5$

Lesson 2.3

Practice A

1. Incorrect distributive property: $4d + 9d - (7 - 6d) = 4d + 9d - 7 + 6d = 19d - 7$
 2. Terms: $6a$, 3 , -5 , and $4a$; like terms: $6a$ and $4a$; 3 and -5 ; coefficients: 6 and 4 ; constants: 3 and -5 ; simplified expression: $10a - 2$ 3. Terms: 2 , $-3y$, $10y$, -14 ; like terms: $-3y$ and $10y$; 2 and -14 ; coefficients: -3 and 10 ; constants: 2 and -14 ; simplified expression: $-12 + 7y$
 4. Terms: $7b$, $-b$, 8 , $10b$; like terms: $7b$, $-b$, and $10b$; coefficients: 7 , -1 , and 10 ; constant: 8 ; simplified expression: $16b + 8$
 5. Terms: c , -9 , $9c$, 15 ; like terms: c and $9c$; -9 and 15 ; coefficients: 1 and 9 ; constants: -9 and 15 ; simplified expression: $10c + 6$
 6. Terms: $11z$, $3z$, $-4z$, 17 ; like terms: $11z$, $3z$, and $-4z$; coefficients: 11 , 3 , and -4 ; constant: 17 ; simplified expression: $10z + 17$
 7. Terms: $-8m$, $16m$, -24 , -32 ; like terms: $-8m$ and $16m$; -24 and -32 ; coefficients: -8 and 16 ; constants: -24 and -32 ; simplified expression: $8m - 56$ 8. $7x + 8$ 9. $19z - 58$
 10. $-12 + 23p$ 11. $-17w - 1$ 12. $-14j + 3$
 13. $7r - 10$ 14. $-15x^2 - 23$ 15. $3 + 12t$
 16. $92 - 66v^2$ 17. $4 - 6f$ 18. $-22h - 31$
 19. $125 - 18k^2$ 20. a. $4t + 225$
 b. 445 calories 21. a. $p + 100$ b. \$115
 22. $(8b - 2)$ units 23. $(4y + 4)$ units
 24. $(5m + 2)$ units

Practice B

1. Incorrect distributive property:
 $16z + 3(24z - 6) - (7 + 31z) = 16z + 72z - 18 - 7 - 31z = 57z - 25$ 2. Terms: $4d$, -5 , $-9d$, 17 ; like terms: $4d$ and $-9d$; -5 and 17 ; coefficients: 4 and -9 ; constants: -5 and 17 ; simplified expression: $-5d + 12$
 3. Terms: $-8p$, -12 , $7p$, -11 ; like terms: $-8p$ and $7p$; -12 and -11 ; coefficients: -8 and 7 ; constants: -12 and -11 ; simplified expression: $-p - 23$ 4. Terms: 27 , $-13t$, 32 , $-2t$, $10t$; like terms: $-13t$, $-2t$, and $10t$; 27 and 32 ; coefficients: -13 , -2 , 10 ; constants: 27 and 32 ; simplified expression: $59 - 5t$
 5. Terms: $6f$, -14 , 26 , $-3f$, $-15f$; like terms: $6f$, $-3f$, and $-15f$; -14 and 26 ; coefficients: 6 , -3 , and -15 ; constants: -14 and 26 ; simplified expression: $-12f + 12$
 6. Terms: $-11j$, 16 , $-22j$, -27 , $5j$; like terms: $-11j$, $-22j$, and $5j$; 16 and -27 ; coefficients: -11 , -22 , 5 ; constants: 16 and -27 ; simplified expression: $-28j - 11$
 7. Terms: -18 , $3z$, 23 , $-19z$, $7z$; like terms: $3z$, $-19z$, and $7z$; -18 and 23 ; coefficients: 3 , -19 , 7 ; constants: -18 and 23 ; simplified expression: $5 - 9z$ 8. $-23c - 15$ 9. $-113 + 45y$
 10. $-9a - 38$ 11. $-76 + 6g^2$ 12. $48u + 4$
 13. $21x^2 + 8$ 14. $-38k - 1$ 15. $33h + 12$
 16. $142 - 229b$ 17. $-8m^2 + 1$ 18. $-w^2 - 15$
 19. $-28 + 5n$ 20. $-153 + 4x^2$
 21. a. $6w$ b. $2w^2$
 c.

Width	1	2	3	4
Perimeter	6	12	18	24
Area	2	8	18	32

 d. a width of 3 meters 22. $(10x + 1)$ units
 23. $(10x + 2)$ units 24. $(13x + 2)$ units

Practice C

1. B 2. Terms: $3u$, -12 , $-4u$, 28 , $-10u$; like terms: $3u$, $-4u$, and $-10u$; -12 and 28 ; coefficients: 3 , -4 , and -10 ; constants: -12 and 28 ; simplified expression: $-11u + 16$
 3. Terms: $6l$, 32 , $-4l$, -19 , $-13l$; like terms: $6l$, $-4l$, and $-13l$; 32 and -19 ; coefficients: 6 , -4 , and -13 ; constants: 32 and -19 ; simplified