

Answers for 1.2

For use with pages 13–16

1.2 Skill Practice

1. base: 12, exponent: 7
2. Like terms have the same variable raised to the same power.
3. The negative sign should be applied after evaluating the power, $-3^4 = -81$.
4. 8 5. 81 6. 64
7. 49 8. -25 9. -32
10. -512 11. -10,000
12. 9 13. -64
14. 256 15. 64
16. 29 17. -5
18. 16 19. -100
20. 19 21. 75
22. -5 23. 6
24. C 25. $5x + 5$
26. $4y^2 + 2y$
27. $13z^2 - 2z + 10$
28. $13w^2 + 14w$
29. $11m - 1$
30. $4n^2 + 10n + 12$
31. $-5p^2 + 21$
32. $-2q^2 - 6q - 12$
33. D
34. $10a + 3b; 60$
35. $10n + 24; 44$
36. $4g + 8h; 52$
37. 26 38. -65
39. 49 40. 19
41. $\frac{1}{9}$ 42. $-\frac{5}{16}$
43. $-7d + 11c$
44. $7j - 3k$
45. $2m^2 + n^2 - 8m$
46. $4p^3 + 3q^2 - q$
47. $13m^2 - 5$
48. $12y^2 - 7x - 5$
49. $-8s + 8t$
50. $12x^2 + 15y$
51. *Sample answer:*
 $3k + 4k + (-8) - 2j;$
 $7k - 8 - 2j$
52. $9 + 12 \div (3 - 1) = 15$
53. $(4 + 3) \cdot (5 - 2) = 21$
54. $(8 + 5^2 - 6) \div 3 = 9$
55. $(3 \cdot 4)^2 - (2^3 + 3)^2 = 23$
56. If $x = 0$ or $y = 0$; no;
 $(x + y)^2 = x^2 + 2xy + y^2$, which
is not equivalent to $x^2 + y^2$.

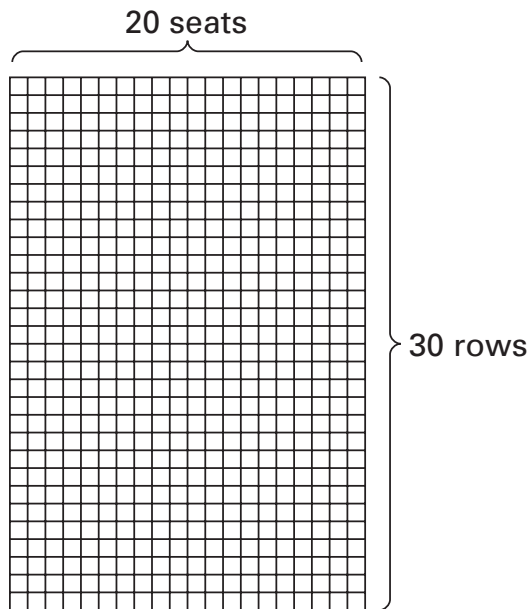
Answers for 1.2 *continued*

For use with pages 13–16

1.2 Problem Solving

- 57.** 0, 10, 20, 30; \$1.89, \$3.20, \$4.51, \$5.82
- 58.** $175m + 96,882$; 98,982 mi
- 59.** $270 - 4.5x$; no; when $x > 60$ there will be a negative balance on the card, which means you will have spent more than what you had on the card.
- 60.** $600 - 6w$; 480 cal

61. a.



- b.** price for close seats • number of close seats + price of other seats • number of other seats
- c.** $200n + 21,000$

d.

n number of rows closest to stage	5	10	15
Income (dollars)	22,000	23,000	24,000

- 62.** $124,000 - 650n$; \$81,750
- 63.** $-6.5x - 6y + 200$; \$88

1.2 Mixed Review

- 64.** 10 **65.** 12
- 66.** 24 **67.** 36
- 68.** Associative property of multiplication
- 69.** Inverse property of multiplication
- 70.** 1500 cm **71.** 2.5 tons
- 72.** 3600 in. **73.** 28,800 min

Answers for 1.3

For use with pages 21–24

1.3 Skill Practice

1. solution
2. *Sample answer:* $3x - 7 = 11$ and $3x = 18$; they have the same solution.
3. 3
4. 11
5. 12
6. -8
7. 6
8. 10
9. $-\frac{2}{9}$
10. 0.5
11. 4
12. 5.5
13. -1
14. -3
15. 18
16. 0
17. -9
18. $-3\frac{1}{2}$
19. B
20. 11
21. 1
22. 13
23. 4
24. -5
25. -7
26. 2
27. $-1\frac{1}{3}$
28. 0
29. 4
30. $-\frac{1}{2}$
31. $-2\frac{2}{3}$
32. D
33. 4
34. -5
35. -7
36. $\frac{4}{7}$
37. -2
38. 1
39. 28
40. $-\frac{1}{2}$
41. Both sides of the equation should be divided by $\frac{3}{7}$ instead of subtracting $\frac{3}{7}$ from the right side;
 $\frac{3}{7}x = 15, x = 15 \div \frac{3}{7}, x = 35.$

42. Both sides of the equation should be multiplied by 10;

$$10\left(\frac{1}{5}x + \frac{1}{2}\right) = 10 \cdot 1;$$

$$2x + 5 = 10; 2x = 5; x = 2\frac{1}{2}.$$

43. 12
44. $6\frac{2}{13}$
45. 60
46. $10\frac{1}{2}$
47. -23
48. -3
49. $1\frac{2}{3}$
50. $-\frac{5}{8}$
51. 6; 15, 15, 8, 8
52. 4; 9, 11, 6
53. 2; 6, 6, 3
54. 5; 8, 8, 5, 5
55. 4
56. 5
57. -2
58. -1
59. 4
60. -3
61. 2.9
62. 2.3
63. no solution
64. all real numbers
65. all real numbers
66. no solution
67. $x = \frac{d-b}{a-c}; a = c$ and $b \neq d;$
 $a = c$ and $b = d$

1.3 Problem Solving

68. 7 T-shirts
69. 3 h
70. \$500,000
71. 9 h

Answers for 1.3 *continued*

For use with pages 21–24

72. $15c + 22(10 - c) = 199$;

3 CDs and 7 DVDs; you would be able to buy 5 CDs and 5 DVDs, solve $15c + 22(10 - c) = 185$.

73. a. $3c + 2g = 8$

b. $\frac{1}{2}$; $\frac{1}{4}$; $2\frac{1}{4}$; $2\frac{5}{12}$

74. a. $18x + 8$

b.

x	Perimeter (in.) $18x + 8$
1.5	35
2	44
2.5	53
3	62
3.5	71

The perimeter is 53 inches when $x = 2.5$.

c. $18x + 8 = 53$, $x = 2.5$; the photo should be enlarged 2.5 times.

75. 18 min

76. 7.5 h

77. B

78. about 4.6 in.

1.3 Mixed Review

79. 100 m^2

80. 24 in.^2

81. about 28.3 in.^2

82. about 177 cm^2

83. Associative property of multiplication

84. Inverse property of addition

85. Commutative property of addition

86. Distributive property

87. $2x^2 - 3x + 8$

88. $-3y^3 - y^2 + 12y$

89. $11z + 8$

90. $-6w - 17$