

## Answers for Lesson 5-4 Exercises

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1.  $3; 3(a^2 + 3)$
2.  $5; 5(5b^2 - 7)$
3.  $x; x(x - 2)$
4.  $t; t(5t + 7)$
5.  $7y; 7y(2y + 1)$
6.  $9p; 9p(3p - 1)$
7.  $(x + 1)(x + 2)$
8.  $(x + 2)(x + 3)$
9.  $(x + 2)(x + 5)$
10.  $(x + 2)(x + 8)$
11.  $(y + 3)(y + 12)$
12.  $(x + 2)(x + 20)$
13.  $(x - 1)(x - 2)$
14.  $(x - 12)(x - 1)$
15.  $(r - 2)(r - 9)$
16.  $(x - 4)(x - 6)$
17.  $(d - 3)(d - 9)$
18.  $(x - 4)(x - 9)$
19.  $(x - 7)(x + 2)$
20.  $(x + 5)(x - 4)$
21.  $(x - 8)(x + 5)$
22.  $(c + 9)(c - 7)$
23.  $(x + 15)(x - 5)$
24.  $(t - 11)(t + 4)$
25.  $(3x + 4)(x + 9)$
26.  $(x - 8)(2x - 3)$
27.  $(r + 2)(5r + 13)$
28.  $(m - 3)(2m - 5)$
29.  $(t + 4)(5t + 8)$
30.  $(x - 12)(2x - 3)$
31.  $(x + 4)(3x - 5)$
32.  $(y + 4)(5y - 8)$
33.  $(x - 2)(7x + 6)$
34.  $(z + 4)(2z - 7)$
35.  $(x + 4)(3x - 4)$
36.  $(4k + 3)(7k - 2)$
37.  $(x + 1)^2$
38.  $(t - 7)^2$
39.  $(x - 9)^2$
40.  $(2n - 5)^2$
41.  $(3x + 8)^2$
42.  $(9z + 2)^2$
43.  $(x + 2)(x - 2)$
44.  $(c + 8)(c - 8)$
45.  $(3x + 1)(3x - 1)$
46.  $x^2 - 16; (x + 4)(x - 4)$
47.  $5x - 1$  by  $5x - 1$
48.  $(3x - 17)$  cm
49.  $(x + y)^2 - y^2; x(x + 2y)$
50.  $(x - 7)$  ft
51.  $9(x + 2)(x - 2)$
52.  $2(3z + 2)(3z - 2)$
53.  $3(2y + 5)(2y - 5)$
54.  $16(2t + 1)(2t - 1)$

## Answers for Lesson 5-4 Exercises (cont.)

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55.  $3(2x + 3)^2$

56.  $4(2x - 5)^2$

57.  $2(a - 4)^2$

58.  $3(x - 9)(x + 1)$

59.  $2(3b - 1)(3b + 5)$

60.  $4(n - 2)(n - 3)$

61.  $3(y + 3)(y + 5)$

62.  $-(x - 1)(x - 4)$

63.  $2(x - 5)(2x - 1)$

64.  $\frac{1}{2}(x + 1)(x - 1)$

65.  $-6(z^2 + 100)$

66.  $\pi h(R + r)(R - r)$

67.  $(x - 70)$  ft

68. Factor 3 from the terms to get  $3(x^2 + 2x - 24)$ . Look for numbers whose product is  $-24$  and whose sum is 2. The numbers  $-4$  and 6 work. The complete factorization is  $3(x - 4)(x + 6)$ .

69. Check students' work.

70. The third line should be  $x(2x - 5) - (2x - 5)$ , and the final line should be  $(x - 1)(2x - 5)$ .

71. First factor out  $4x^2$  to get  $4x^2(x^2 + 6x + 8)$ . To factor  $x^2 + 6x + 8$ , note that the numbers 2 and 4 have a product of 8 and a sum of 6. The complete factorization is  $4x^2(x + 2)(x + 4)$ .

72.  $(0.5t + 0.4)(0.5t - 0.4)$

73.  $100(9x - 10)(9x + 10)$

74.  $100(6z - 7)(6z + 7)$

75.  $(x + 12)(x - 3)$

76.  $(x - 10)(x - 9)$

77.  $(2x + 9)(3x + 14)$

78.  $2(a + 1)(6a - 7)$