U3L6 wkst Review

## Review

1. Write the GCF of each pair.

a) $35, 40$ b) $21, 28$

c) $34, 51$ d) $120, 96$

e) $10a^2, 5a$ f) $16xy, 12xz$

g) $10ab^2, 18ab$ h) $15xy, 25x^2y^2$

2. Write the GCF of each set.

a) $21x^2y, 15xy^2, 9x^2y^2$

b) $24x^2, -16xy, 32y^2$

c) $18xy^2, -27x^2y^2, 36x^2y$

*Factor.*

3. $5x - 15$ 4. $6x^2 - 18x$

5. $5ab + 10ac$ 6. $7a^2 + 35a^3$

7. $8abc - 12bc$ 8. $3x^2 + 9y^2$

9. $3a^2 - 6ab + a$ 10. $2x + 6y - 10z$

*Expand and simplify.*

11. $2(3x + 1) + 3(x + 4)$

12. $4(a + 5) + 3(a - 2)$

13. $3y(2y - 7) + 2(y - 5)$

14. $2(m + 1) - m(m + 1)$

15. $-z(2z + 3) - (z - 5)$

16. $5x(2x - 7) - 3x(3x - 5)$

*Expand.*

17. $2y(-y^2 + 3y - 7)$

18. $-3t(1 - 2t - t^2)$

19. $4m(m^2 + 2m - 3)$

20. $-3x(2x^2 - 4x + 2)$

*Divide.*

21. $\dfrac{8a^3b^5 - 16a^4b^4 + 4a^5b^3}{4a^3b^3}$

22. $\dfrac{6a^4b^5z^5 - 12a^4b^5z^4}{-3a^3b^4z^2}$

*Expand.*

23. $(x + 2)(x - 3)$ 24. $(x - 4)(x + 7)$

25. $(x + 5)(x + 2)$ 26. $(x - 2)(x - 3)$

27. $(x + 10)(x - 2)$ 28. $(2x - 5)(3x - 2)$

29. $(-2a - 3)(5a + 2)$ 30. $(4x - 7)(-3x + 2)$

31. $(3x - 5)(-7x + 6)$ 32. $(-5a - b)(2a + 3b)$

*Factor.*

33. $x^2 + 8x + 7$ 34. $x^2 - 6x + 5$

35. $y^2 + 8y + 15$ 36. $a^2 + 8a + 12$

37. $b^2 + 10b + 24$ 38. $x^2 - 7x + 6$

39. $x^2 - 11x + 28$ 40. $a^2 - 7a + 12$

*Factor.*

41. $a^2 - a - 20$ 42. $x^2 - x - 30$

43. $x^2 - 5x - 14$ 44. $m^2 - 6m - 40$

45. $x^2 + 4x - 21$ 46. $x^2 + 10x - 24$

47. $x^2 + 2x - 35$ 48. $x^2 - 2x - 15$

*Factor fully.*

49. $2x^2 + 24x + 40$ 50. $5a^2 - 40a + 80$

51. $4w^2 - 4w - 120$ 52. $3r^2 - 21r + 30$

53. $2j^2 - 6j + 8$ 54. $3t^2 + 18t - 21$

55. $7y^2 + 7y - 140$ 56. $3z^2 - 39z + 126$

*Factor.*

57. $x^2 - 1$ 58. $y^2 - 4$ 59. $4a^2 - 9$

60. $a^2 - 4b^2$ 61. $4x^2 - y^2$ 62. $4a^2 - 9b^2$

63. $9 - x^2$ 64. $25 - 49x^2$ 65. $2a^2 - 50$

66. $5x^2 - 20$ 67. $4x^2 - 36$ 68. $16a^2 - 36$

*Identify the expressions that are perfect squares.*

69. $x^2 - 2x + 1$ 70. $x^2 + 9x + 3$

71. $x^2 - 8x - 16$ 72. $x^2 + 10x + 25$

★complete on piece of lined paper

## Review p. 212–213

**1.** a) 5 b) 7 c) 17 d) 24 e) $5a$ f) $4x$ g) $2ab$ h) $5xy$
**2.** a) $3xy$ b) 8 c) $9xy$ **3.** $5(x-3)$ **4.** $6x(x-3)$
**5.** $5a(b+2c)$ **6.** $7a^2(1+5a)$ **7.** $4bc(2a-3)$
**8.** $3(x^2+3y^2)$ **9.** $a(3a-6b+1)$ **10.** $2(x+3y-5z)$

**11.** $9x+14$ **12.** $7a+14$ **13.** $6y^2-19y-10$
**14.** $-m^2+m+2$ **15.** $-2z^2-4z+5$ **16.** $x^2-20x$
**17.** $-2y^3+6y^2-14y$ **18.** $-3t+6t^2+3t^3$
**19.** $4m^3+8m^2-12m$ **20.** $-6x^3+12x^2-6x$
**21.** $2b^2-4ab+a^2$ **22.** $-2abz^3+4abz^2$ **23.** $x^2-x-6$
**24.** $x^2+3x-28$ **25.** $x^2+7x+10$ **26.** $x^2-5x+6$
**27.** $x^2+8x-20$ **28.** $6x^2-19x+10$
**29.** $10a^2-19a-6$ **30.** $12x^2-13x-14$
**31.** $-21x^2+53x-30$ **32.** $10a^2+13ab-3b^2$
**33.** $(x+1)(x+7)$ **34.** $(x-1)(x-5)$ **35.** $(y+3)(y+5)$
**36.** $(a+2)(a+6)$ **37.** $(b+4)(b+6)$ **38.** $(x-1)(x-6)$
**39.** $(x-4)(x-7)$ **40.** $(a-3)(a-4)$ **41.** $(a-5)(a+4)$
**42.** $(x-6)(x+5)$ **43.** $(x-7)(x+2)$
**44.** $(m-10)(m+4)$ **45.** $(x-3)(x+7)$
**46.** $(x-2)(x+12)$ **47.** $(x-5)(x+7)$
**48.** $(x-5)(x+3)$ **49.** $2(x+2)(x+10)$
**50.** $5(a-4)(a-4)$ **51.** $4(w-6)(w+5)$
**52.** $3(r-2)(r-5)$ **53.** $2(j^2-3j+4)$
**54.** $3(t-1)(t+7)$ **55.** $7(y-4)(y+5)$
**56.** $3(z-6)(z-7)$ **57.** $(x-1)(x+1)$
**58.** $(y-2)(y+2)$ **59.** $(2a-3)(2a+3)$
**60.** $(a-2b)(a+2b)$ **61.** $(2x-y)(2x+y)$
**62.** $(2a-3b)(2a+3b)$ **63.** $(3-x)(3+x)$
**64.** $(5-7x)(5+7x)$ **65.** $2(a-5)(a+5)$
**66.** $5(x-2)(x+2)$ **67.** $4(x-3)(x+3)$
**68.** $4(2a-3)(2a+3)$ **69.** yes **70.** no **71.** no
**72.** yes **73.** $x^2+4x+4$ **74.** $x^2-6x+9$
**75.** $x^2-6x+9$ **76.** $y^2+12y+36$
**77.** $x^3-5x^2+8x-4$ **78.** $x^3-8x^2+12x+9$
**79.** $2x^3-x+1$ **80.** $3x^3+14x^2-6x-5$
**81.** $x^3+1$ **82.** $x^3+x^2+x-3$
**83.** $5x^3-25x^2+17x+12$ **84.** $4x^3+5x^2-13x-14$
**85.** $\frac{5x-11}{6}$ **86.** $\frac{2x-7}{15}$ **87.** $\frac{x}{6}$ **88.** $\frac{19x+1}{42}$ **89.** $\frac{2-x}{x^2}$
**90.** $\frac{2x+3}{7x^2}$ **91.** $\frac{x-17}{6}$ **92.** $\frac{x+17}{12}$ **93.** $\frac{6x+22}{7}$
**94.** $\frac{13x-19}{42}$ **95.** $\frac{2x-9}{35}$ **96.** $\frac{3x-2}{28}$ **97.** $\frac{2+x}{2x}$ **98.** $\frac{5}{x^2}$
**99.** a) $(x+2)(x+8)$ b) $(x+4)(x+10)$ c) $x^2+14x+40$