Chapter 8 Test

Simplify. (8.1)

1. $\sqrt{81}$

2. $\sqrt{9y^8}$

3. $\sqrt{361}$

4. $\sqrt{625}$

5. $\sqrt{961}$

Find the value of the variable that would yield a real number for the expression. (8.1)

6. $\sqrt{a-7}$

8. $\sqrt{5x-6}$

10. $\sqrt{y-28}$

7. $\sqrt{a+2}$

9. $\sqrt{7x}$

11. $\sqrt{b^2+18}$

Find the value that will make the expression a real number. (8.1)

12. $\sqrt{t^8}$

13. $\sqrt{(x+4)^6}$

14. $\sqrt{\dfrac{64}{9}y^4}$

Simplify. (8.1) Assume all variables to be nonnegative.

15. $\sqrt{45}$

17. $\sqrt{84g}$

19. $\sqrt{80x^9y^{17}z}$

21. $\sqrt{250}$

16. $\sqrt{75a^7}$

18. $\sqrt{88a^{13}}$

20. $\sqrt{9x^2-18x+9}$

22. $\sqrt{90y^3}$

Multiply and simplify. (8.2)

23. $(\sqrt{9})(\sqrt{6})$

25. $(\sqrt{5})(\sqrt{3})(\sqrt{12})$

27. $(\sqrt{x})(\sqrt{72})(\sqrt{x^8})$

24. $(\sqrt{15})(\sqrt{8})$

26. $(\sqrt{20})(\sqrt{90})(\sqrt{5})$

28. $(\sqrt{g})(\sqrt{g-9})$

Divide and simplify. (8.2)

29. $\dfrac{\sqrt{80}}{\sqrt{20}}$

30. $\sqrt{\dfrac{12}{y}}$

31. $\sqrt{\dfrac{18x^9}{25y^{12}}}$

32. $\dfrac{\sqrt{24x^5}}{\sqrt{10x}}$

33. $\sqrt{\dfrac{48x^6}{49y^9}}$

34. $\dfrac{\sqrt{90}}{\sqrt{36}}$

Add or subtract. (8.2)

35. $\sqrt{4y-20}+\sqrt{16y-80}-\sqrt{9y-45}-\sqrt{y-5}$

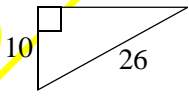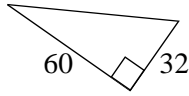37. $5y\sqrt{x^3y}-2x\sqrt{xy^3}+xy\sqrt{xy}-8y\sqrt{x^3y}$

36. $8y\sqrt{4y-8}-y\sqrt{9y-18}+5y\sqrt{25y-50}$

38. $\sqrt{a^3+a^1}-\sqrt{9a^3+9}+4\sqrt{49a^3+49}$

Solve. (8.3)

39. $\sqrt{x}=7$

41. $\sqrt{5x-8}=\sqrt{4x+13}$

43. $\sqrt{x}=-7$

40. $\sqrt{2x+8}=10$

42. $7\sqrt{x-2}=4\sqrt{6-x}$

44. $\sqrt{5a}+30=15$

Find the missing side. (8.4)

45.

46.

47. $a=24, b=50$

48. $a=\sqrt{10}, b=20$

49. $a=18, b=18$

50. $b=17, c=35$

Find the distance from point A to point B. (8.5)

51. A(3,3) B(9,4)

52. A(–9,12) B(7,–5)

53. A(5,–6) B(14,6)

54. A(–13,7) B(4,16)