Name _____ Date _____

LESSON 11.2

Practice B

For use with pages 718–726

Simplify the expression.

1. $\sqrt{200}$ **2.** $\sqrt{45}$ **3.** $\sqrt{112}$

4. $\sqrt{400d}$ **5.** $\sqrt{9y^2}$ **6.** $\sqrt{25n^3}$

7. $\sqrt{3} \cdot \sqrt{21}$ **8.** $\sqrt{20} \cdot \sqrt{15}$ **9.** $\sqrt{10x} \cdot \sqrt{2x}$

10. $\sqrt{\frac{16}{81}}$ **11.** $\sqrt{\frac{5}{49}}$ **12.** $\sqrt{\frac{x^2}{144}}$

Simplify the expression by rationalizing the denominator.

13. $\frac{4}{\sqrt{5}}$ **14.** $\sqrt{\frac{3}{50}}$ **15.** $\sqrt{\frac{9}{75}}$

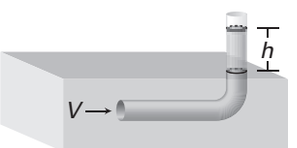
16. $\frac{2}{\sqrt{p}}$ **17.** $\frac{1}{\sqrt{3y}}$ **18.** $\frac{9}{\sqrt{2x}}$

Simplify the expression.

19. $10\sqrt{7} + 3\sqrt{7}$ **20.** $4\sqrt{5} - 7\sqrt{5}$ **21.** $\sqrt{7}(4 - \sqrt{7})$

22. $\sqrt{5}(8\sqrt{10} + 1)$ **23.** $(2\sqrt{3} + 5)^2$ **24.** $(6 + \sqrt{3})(6 - \sqrt{3})$

25. Water Flow You can measure the speed of water by using an L-shaped tube. The speed V of the water (in miles per hour) is given by the function $V = \sqrt{\frac{5}{2}h}$ where h is the height of the column of water above the surface (in inches).



a. If you use the tube in a river and find that h is 6 inches, what is the speed of the water? Round your answer to the nearest hundredth.

b. If you use the tube in a river and find that h is 8.5 inches, what is the speed of the water? Round your answer to the nearest hundredth.

26. Walking Speed The maximum walking speed S (in feet per second) of an animal is given by the function $S = \sqrt{gL}$ where g is 32 feet per second squared and L is the length of the animal's leg (in feet).

a. How fast can an animal whose legs are 9 inches long walk? Round your answer to the nearest hundredth.

b. How fast can an animal whose legs are 3 feet long walk? Round your answer to the nearest hundredth.