Name _____ Date _____

Practice B
For use with the lesson "Precision and Significant Digits"

Choose the more precise measurement.

1. 6.5 qt; 6.54 qt

2. 11.7 lb; 9 lb

3. 19 km; 21.3 km

4. 7.2 hr; 14 min

5. 3.1 in.; 7.02 ft

6. 1 kL; 1000 L

Determine the number of significant digits in the measurement.

7. 47.2 mi

8. 0.004 mm

9. 1002 yr

10. 3.20 gal

11. 2.6075 ft

12. 1.004 in.

13. 10.0500 sec

14. 0.0205 mL

Perform the indicated operation. Write the answer with the correct number of significant digits.

15. 6.2 qt − 1.19 qt

16. 4.1 yd × 6.7 yd

17. 11.1 cm + 49.9 cm

18. 17 m^2 ÷ 0.20 m

19. 0.04 in. + 0.007 in.

20. 72.01 ft × 2.220 ft

21. The quotient 0.002 cm^2 ÷ 0.0006 cm contains how many significant digits?

A. 1   **B.** 2   **C.** 3   **D.** 4

22. The product 10.1 in. × 21.01 in. contains how many significant digits?

A. 1   **B.** 2   **C.** 3   **D.** 4

23. Height At her first volleyball practice of the season, Lilly was measured and told that she was 1.9 meters tall. When she got home that evening she asked her mother to measure her. Her mother told Lilly she was 2 meters tall. Which measure is more precise? *Explain* your answer.

24. Skyscraper The Willis Tower, formerly known as the Sears Tower, is located in Chicago, Illinois. Its base is a square with each side measuring approximately 675 feet. Using the correct number of significant digits, what are the perimeter and area of the base of the tower?

25. Fountains Brooke completed her flower garden by placing a circular water fountain at its center. If the radius of her fountain is 3 feet, what is the area of her fountain? Use the area equation $A = \pi r^2$ where $\pi = 3.14$ and $r = 3$. Give your answer using the correct number of significant digits.

26. Measurement A micrometer is a device used in mechanical engineering to measure very small distances. Suppose Tara and Kwan each measure the thickness of a sheet of notebook paper using a micrometer. Tara reports the thickness as 0.0001 millimeter and Kwan reports the thickness as 0.00015 millimeter. Which of the two measurements is more precise? *Explain* your answer.

27. Coins The thickness of a penny, nickel, dime, and quarter are approximately 1.55 millimeters, 1.95 millimeters, 1.35 millimeters, and 1.75 millimeters, respectively. If a penny, nickel, dime, and quarter are stacked up, how high would the stack be? Give your answer using the correct number of significant digits.