

# Practice

# 1.3

Name Answers

In Exercises 1 and 2, write a verbal description of the number sentence.

1.  $3^4 = 81$  3 to the 4<sup>th</sup> power is 81

2.  $\sqrt{1.69} = 1.3$  Square root of 1.69 is 1.3

In Exercises 3–8, write each expression as a power. Then use a calculator to find the value of the power.

3.  $10.5 \times 10.5 = 10.5^2 = 110.25$  4.  $7 \times 7 \times 7 \times 7 \times 7 = 7^5 = 16,807$  5.  $(1.2)(1.2)(1.2) = (1.2)^3 = 1.728$

6.  $(8.2)(8.2)(8.2)(8.2) = 8.2^4 = 4521.2176 \approx 4521.22$  7.  $\frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} \cdot \frac{2}{5} = (\frac{2}{5})^6 = \frac{64}{15,625}$  8.  $\frac{1}{9} \cdot \frac{1}{9} \cdot \frac{1}{9} \cdot \frac{1}{9} = (\frac{1}{9})^4 = \frac{1}{6561}$

In Exercises 9–14, find the value of the expression using a calculator. Round your results to two decimal places.

9.  $\sqrt{625} = 25$

10.  $\sqrt{676} = 26$

11.  $\sqrt{243.36} = 15.6$

12.  $\sqrt{596} = 24.41$

13.  $\sqrt{7.5} = 2.74$

14.  $\sqrt{4.25} = 2.06$

In Exercises 15–20, find the number that is represented by a  $\Delta$ .

15.  $\Delta \cdot \Delta \cdot \Delta = 729 = 9$

16.  $\Delta \cdot \Delta \cdot \Delta \cdot \Delta \cdot \Delta = 3125 = 5$

17.  $\Delta \cdot \Delta = 33.64 = 5.8$

18.  $\Delta \cdot \Delta \cdot \Delta = 42.875 = 3.5$

19.  $\sqrt{\Delta} = 12 = 144$

20.  $\sqrt{\Delta} = 27 = 729$

In Exercises 21–24, replace each  $\square$  with  $>$ ,  $<$ , or  $=$ .

21.  $4^2 \square 2^4 =$

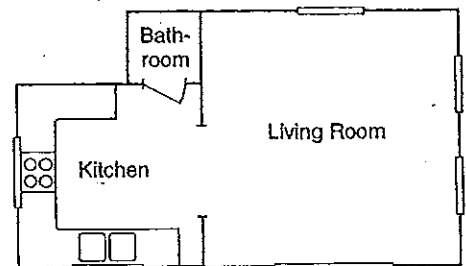
22.  $3^5 \square 5^3 >$

23.  $7^3 \square 3^7 <$

24.  $3^2 \square 2^3 >$

25. The floor plan at the right shows three square rooms. The area of the kitchen is 400 square feet. The area of the bathroom is 64 square feet. The perimeter of the living room is 112 feet. Find the perimeter of both the kitchen and the bathroom, and find the area of the living room. Then find the total floor area.

K perimeter = 80 ft  
 B perimeter = 32 ft  
 LR Area = 784 ft<sup>2</sup>  
 Total area = 1248 ft<sup>2</sup>



26. The closed box shown at right has dimensions 8 in. by 8 in. by 8 in.

- a. Find the volume of the box.  $512 \text{ in}^3$   
 b. What is the surface area of the box?  $384 \text{ in}^2$   
 c. Is it possible to place another box of volume 420 cubic inches inside of the box shown? Explain. Yes, if

neither the length, width, nor height of the "smaller" box is greater than 8 in.

