

# 5.1 Practice A

In Exercises 1–3, find the indicated real  $n$ th root(s) of  $a$ .

1.  $n = 3, a = 125$

2.  $n = 2, a = 49$

3.  $n = 4, a = 81$

In Exercises 4–9, evaluate the expression without using a calculator.

4.  $27^{1/3}$

5.  $16^{1/4}$

6.  $4^{3/2}$

7.  $625^{3/4}$

8.  $(-1000)^{2/3}$

9.  $32^{1/5}$

In Exercises 10–15, evaluate the expression using a calculator. Round your answer to two decimal places when appropriate.

10.  $\sqrt[5]{16,807}$

11.  $\sqrt[6]{15,625}$

12.  $12^{-1/3}$

13.  $92^{1/5}$

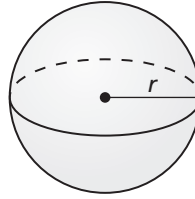
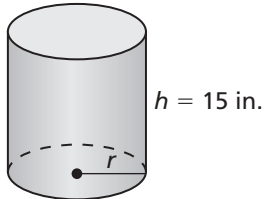
14.  $6561^{5/4}$

15.  $113^{-3/4}$

In Exercises 16 and 17, find the radius of the figure with the given volume.

16.  $V = 1726 \text{ in.}^3$

17.  $V = 734 \text{ m}^3$



In Exercises 18–23, find the real solution(s) of the equation. Round your answer to two decimal places when appropriate.

18.  $x^4 = 256$

19.  $3x^3 = 375$

20.  $(x - 6)^2 = 40$

21.  $(x + 7)^3 = 1000$

22.  $x^5 = -112$

23.  $9x^4 = 54$

24. When the average price of an item increases from  $p_1$  to  $p_2$  over a period of  $n$  years, the price  $p_2$  is given by  $p_2 = p_1(r + 1)^n$ , where  $r$  is the annual rate of inflation (in decimal form). Find the annual rate of inflation when the price of a loaf of bread was \$1.19 in 1970 and \$3.29 in 2010.