

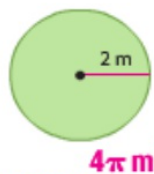
QuickCheck

Write each expression using exponents.

- $4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$ 4^5
- $y \cdot y \cdot y$ y^3
- $6 \cdot 6$ 6^2
- $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$ 2^9
- $b \cdot b \cdot b \cdot b \cdot b \cdot b$ b^6
- $m \cdot m \cdot m \cdot p \cdot p \cdot p \cdot p \cdot p \cdot p$ $m^3 p^6$
- $\frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3}$ $\left(\frac{1}{3}\right)^8$ or $\frac{1}{3^8}$
- $\frac{x}{y} \cdot \frac{x}{y} \cdot \frac{x}{y} \cdot \frac{x}{y} \cdot \frac{w}{z} \cdot \frac{w}{z}$ $\frac{x^4 w^2}{y^4 z^2}$

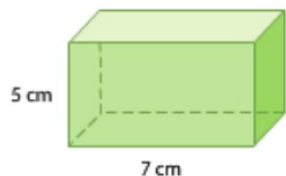
Find the area or volume of each figure.

9.



$$4\pi \text{ m}^2$$

10.



$$105 \text{ cm}^3$$

11. **PHOTOGRAPHY** A photo is 4 inches by 6 inches. What is the area of the photo? 24 in^2

QuickReview

Example 1 (Used in Lessons 7-1 and 7-2)

Write $5 \cdot 5 \cdot 5 \cdot 5 + x \cdot x \cdot x$ using exponents.

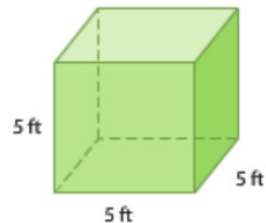
4 factors of 5 is 5^4 .

3 factors of x is x^3 .

So, $5 \cdot 5 \cdot 5 \cdot 5 + x \cdot x \cdot x = 5^4 + x^3$.

Example 2 (Used in Lessons 7-1 and 7-2)

Find the volume of the figure.



$$V = \ell wh$$

$$= 5 \cdot 5 \cdot 5 \text{ or } 125$$

The volume is 125 cubic feet.

Volume of a rectangular prism

$$\ell = 5, w = 5, \text{ and } h = 5$$

Evaluate each expression.

- 2^3 8
- $(-5)^2$ 25
- 3^3 27
- $(-4)^3$ -64
- $\left(\frac{2}{3}\right)^2$ $\frac{4}{9}$
- $\left(\frac{1}{2}\right)^4$ $\frac{1}{16}$

18. **SCHOOL** The probability of guessing correctly on 5 true-false questions is $\left(\frac{1}{2}\right)^5$. Express this probability as a fraction without exponents. $\frac{1}{32}$

Example 3 (Used in Lessons 7-1 through 7-7)

Evaluate $\left(\frac{5}{7}\right)^2$.

$$\left(\frac{5}{7}\right)^2 = \frac{5^2}{7^2} \quad \text{Power of a Quotient}$$

$$= \frac{25}{49} \quad \text{Simplify.}$$

