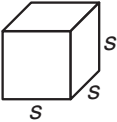
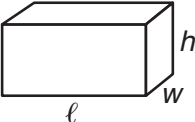


SKILL

41

Skills Readiness**Surface Area**

Definition: The surface area of a solid is the number of square units needed to cover the entire surface of the solid. Surface area is the sum of the areas of all the sides and the bases of the solid. Surface area units are always square units.

Surface Area Formulas	
Cube	Rectangular Prism
	
$S.A. = 6s^2$	$S.A. = 2lw + 2lh + 2wh$

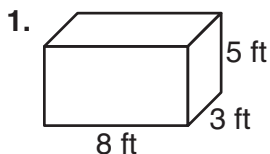
Example: Find the surface area of a rectangular prism with height 2 cm, width 7 cm, and length 10 cm.

Answer: Since each of the dimensions is given, substitute the values into the equation for surface area and simplify:

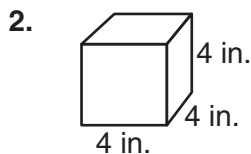
$$\begin{aligned}
 S.A. &= 2lw + 2lh + 2wh \text{ (with } l = 10, w = 7, \text{ and } h = 2) \\
 &= 2(10)(7) + 2(10)(2) + 2(7)(2) \\
 &= 140 + 40 + 28 \\
 &= 208 \text{ cm}^2
 \end{aligned}$$

Practice on Your Own

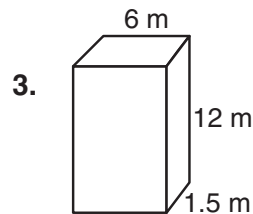
Find the surface area of each solid.



S.A. = _____



S.A. = _____



S.A. = _____

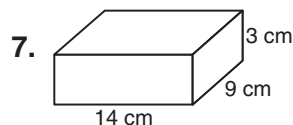
4. A rectangular prism with height 9 m, width 7 m, and length 1 m _____

5. A cube with side length 5 in. _____

6. A rectangular prism with height 6 cm and a square base with side length 3 cm _____

Check

Find the surface area of each solid.



S.A. = _____

8. A rectangular prism with height 2.5 ft, width 8 ft, and length 16 ft _____

9. A cube with side length 10 in. _____