

yields the total surface area of the rectangular solid.

a.  $l = 7'$   
 $w = 6'$   
 $h = 5'$   
 $a_s = (214 \text{ sq. ft.})$

b.  $l = 15 \text{ cm}$   
 $w = 13 \text{ cm}$   
 $h = 9 \text{ cm}$   
 $a_s = (894 \text{ cm}^2)$

c.  $l = 40 \text{ in.}$   
 $w = 25 \text{ in.}$   
 $h = 30 \text{ in.}$   
 $a_s = (5,900 \text{ sq. in.})$

3. **To find the surface area of a cube, use the formula  $a_s = 6e^2$ .** The concept of finding the surface area of a cube is easy. Each surface is a square of the same size. The area of one square is  $e^2$ . So the surface area of a cube is six times that of one of its sides, or  $6e^2$ .

a.  $e = 11 \text{ in.}$   
 $a_s = (726 \text{ sq. in.})$

b.  $e = 20 \text{ cm}$   
 $a_s = (2,400 \text{ cm}^2)$

c.  $e = 35 \text{ in.}$   
 $a_s = (7,350 \text{ sq. in.})$

### Further Study

Since painters usually cover only the vertical sides of a building, they often compute surface area by a method based on perimeter. By this method, perimeter times height gives the area of the surface to be painted. If the height is not uniform (as when a building has gable ends), they estimate to obtain an average height.