NAME _____ DATE _____ PERIOD _____

# Lesson 6 Reteach

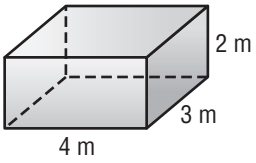
## *Surface Area of Prisms*

The sum of the areas of all the surfaces, or faces, of a three-dimensional shape is the **surface area**. The surface area *S.A.* of a rectangular prism with length $\ell$, width $w$, and height $h$ is the sum of the areas of its faces.

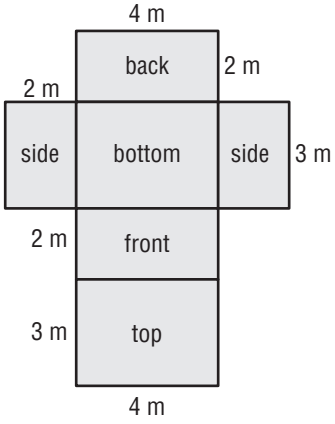
$S.A. = 2\ell w + 2\ell h + 2wh$

### Example

**Find the surface area of the rectangular prism.**




| Faces | Area |
|---|---|
| top and bottom | $2\ (4 \cdot 3) = 24$ |
| front and back | $2\ (4 \cdot 2) = 16$ |
| two sides | $2\ (2 \cdot 3) = 12$ |
| sum of the areas | $24 + 16 + 12 = 52$ |




Alternatively, replace $\ell$ with 4, $w$ with 3, and $h$ with 2 in the formula for surface area.

$S.A. = 2\ell w + 2\ell h + 2wh$

$= 2\ (4 \cdot 3) + 2\ (4 \cdot 2) + 2\ (3 \cdot 2)$

$= 24 + 16 + 12$

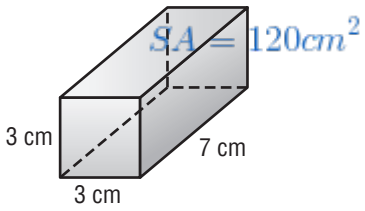
$= 52$

So, the surface area of the rectangular prism is 52 square meters.

### Exercises

**Find the surface area of each prism.**

**1.**

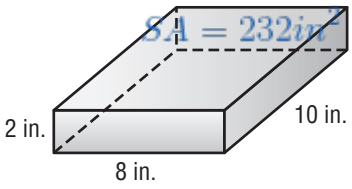



2 (3 x 7) + 2(3 x 7) + 2(3 x 3)

2(21 2(21 2(19

42 + 42 + 18 =102

**2.**




2(8 x 2 ) + 2 (8 x 10) + 2 ( 2 x 10

(16 (80 (20

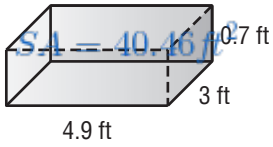
32 + 160 + 40 =232

A= 9 x 17=135

A=9 x 8=72

A=9 x 15 =135

**3.**

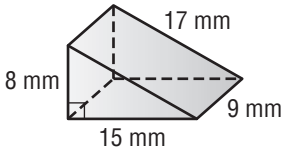



2(4.9 x 3) + 2(3 x 0.7) + 2(0.7 x 4.9)

2(14.7 2( 2.1 2(3.43

29.4 + 4.2 + 6.86 = 40.46

**4.**




A = 1/2 (15 x 8)

A=1/2 (120)

A=60