NAME Maddie DATE 4-14-21 PERIOD 1

Lesson 6 Reteach

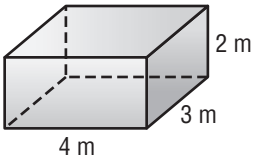
Surface Area of Prisms

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 ℓ, width w, and height h is the sum of the areas of its faces.

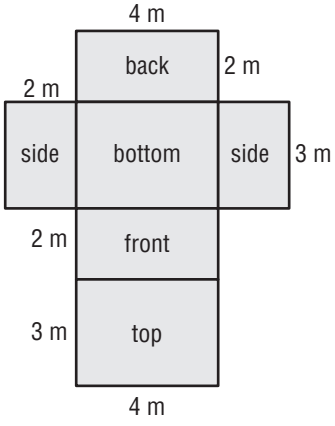
$S.A. = 2\ell w + 2\ell h + 2wh$

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 ℓ with 4, w with 3, and h with 2 in the formula for surface area.

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

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

$= 24 + 16 + 12$

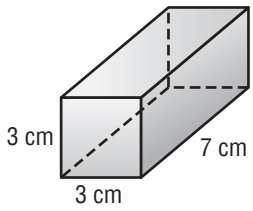
$= 52$

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

Exercises

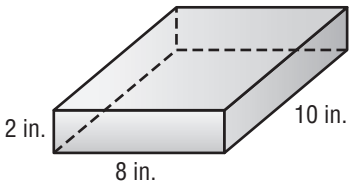
Find the surface area of each prism.

1.



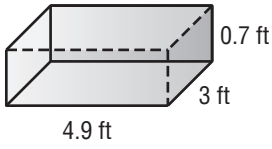
78cm2

2.



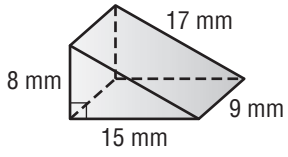
232in2

3.



35.46ft2

4.



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