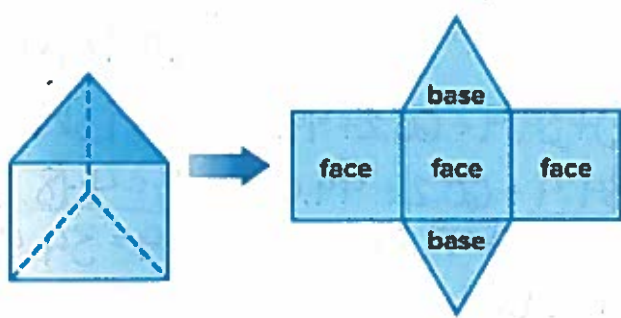$A = \frac{1}{2}bh$ -OR- $A = \frac{bh}{2}$ & $A = \ell w$ -OR- $A = bh$

Chapter 10 Lesson 4
Surface Area of Triangular Prisms

Area of a triangle: ½ bh	Area of rectangle: lw
Equilateral Triangle: All sides are equal. **Triangular Prism**- notice two triangular faces and 3 rectangular faces. *When bases are equilateral triangles, the areas of the 3 rectangular faces are equal.	**Triangular Prism**: triangular bases

Surface Area of Triangular Prisms: the SUM of the areas of the 2 triangular bases and the 3 rectangular bases.

EXAMPLES:

Find the surface area of the triangular prism.
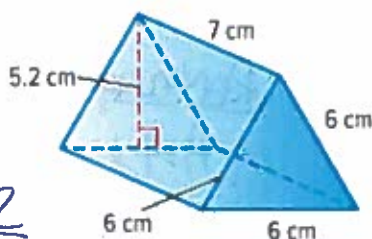
triangles 1
$A = \frac{1}{2}bh$
$A = \frac{1}{2}(6)(5.2)$
$A = 3(5.2)$
$\boxed{A = 15.6}$

triangle 2
$A = \frac{1}{2}bh$
$A = \frac{1}{2}(6)(5.2)$
$A = 3(5.2)$
$\boxed{A = 15.6}$

Rectangle 3
$A = bh$
$A = 6 \cdot 7$
$\boxed{A = 42}$

Rectangle 1
$A = bh$
$A = 6 \cdot 7$
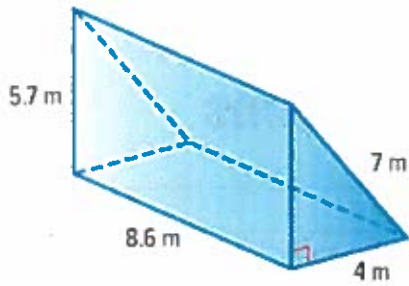$\boxed{A = 42}$

Rectangle 2
$A = bh$
$A = 6 \cdot 7$
$\boxed{A = 42}$

$SA = 2(15.6) + 3(42)$
$SA = 31.2 + 3(42)$
$SA = 31.2 + 126$
$\boxed{SA = 157.2 \text{ cm}^2}$

triangles (x2)

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(4)(5.7)$

$A = 2(5.7)$

$A = 11.4$

Rectangle 1

$A = bh$

$A = 4 \cdot (8.6)$

$A = 34.4$

Rectangle 2

$A = bh$

$A = 7 \cdot (8.6)$

$A = 60.2$

Rectangle 3

$A = bh$
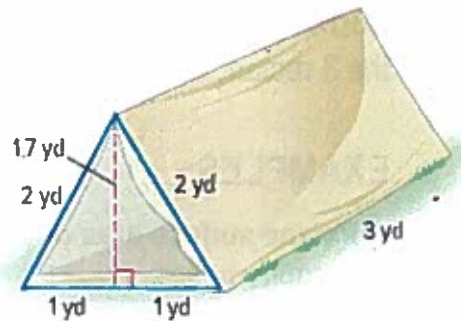
$A = 5.7(8.6)$

$A = 49.02$

$SA = 2(11.4) + 34.4 + 60.2 + 49.02$

$A = 22.8 + 34.4 + 60.2 + 49.02$

$A = 57.2 + 60.2 + 49.02$

$SA = 117.4 + 49.02$

$SA = 166.42 \ m^2$

A tent is in the shape of a triangular prism. About how much canvas, including the floor, is used to make the tent? (Example 3)

triangles x2

$A = \frac{1}{2}bh$

$A = \frac{1}{2}(2)(1.7)$

$A = 1(1.7)$

$A = 1.7$

Rectangle 1

$A = bh$

$A = 3 \cdot 2$

$A = 6$

Rectangle 2

$A = bh$

$A = 3 \cdot 2$

$A = 6$

Rectangle 3

$A = bh$

$A = 2 \cdot 3$

$A = 6$

$SA = 2(1.7) + 3(6)$

$SA = 3.4 + 3(6)$

$SA = 3.4 + 18$

$SA = 21.4 \ yds^2$