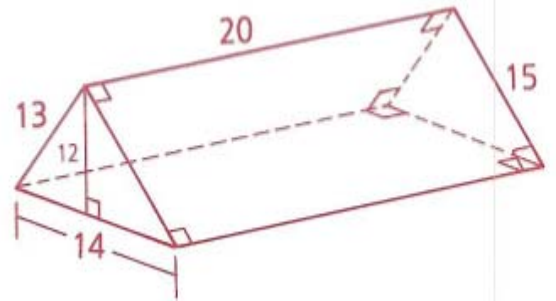


Problem

Given: The right triangular prism shown

Find: **a** Its lateral area (L.A.)

b Its total area (T.A.)



a. LATERAL AREA (DOES NOT INCL. BASES)

$$\begin{array}{c}
 \begin{array}{|c|} \hline 20 \\ \hline \end{array} \\
 \begin{array}{|c|} \hline 13 \\ \hline \end{array} \begin{array}{|c|} \hline \text{BACK LF} \\ \hline \end{array} \\
 \hline 260u^2
 \end{array}
 + 15 \begin{array}{|c|} \hline 20 \\ \hline \end{array} \begin{array}{|c|} \hline \text{FRONT LF} \\ \hline \end{array}
 + 14 \begin{array}{|c|} \hline 20 \\ \hline \end{array} \begin{array}{|c|} \hline \text{BOTTOM LF} \\ \hline \end{array}$$

$$260u^2 + 300u^2 + 280u^2$$

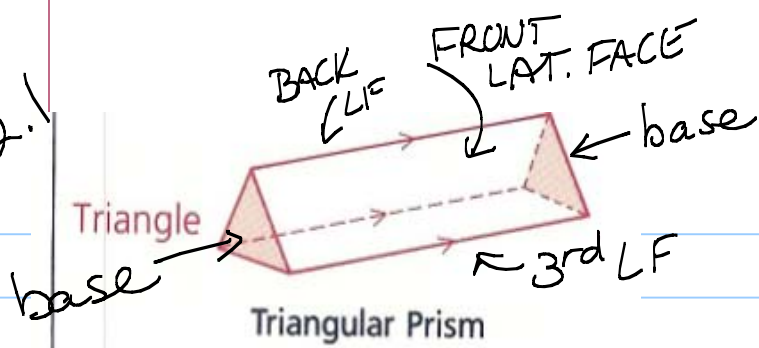
$$840 \text{ units}^2$$

b. 2 bases

$$\begin{aligned}
 A_{\text{base}} &= \frac{1}{2} b \cdot h \\
 &= \frac{1}{2} 14 \cdot 12 \\
 &= 84
 \end{aligned}$$

$$\begin{array}{r}
 2(84) = 168 \\
 + \text{LA} = 840 \\
 \hline
 1008
 \end{array}$$

12.1

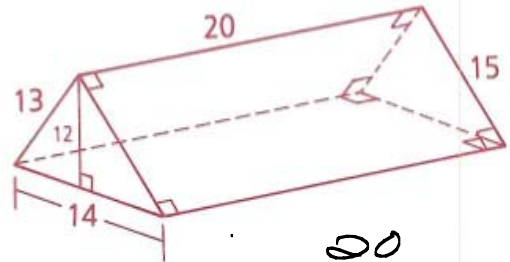


Lat. Faces are Rectangles

Problem

Given: The right triangular prism shown

- Find: a Its lateral area (L.A.)
b Its total area (T.A.)



a)

$$13 \begin{array}{|c|} \hline 20 \\ \hline \end{array} + \begin{array}{|c|} \hline 20 \\ \hline \end{array} 15 + 14 \begin{array}{|c|} \hline 20 \\ \hline \end{array} = 260 + 300 + 280 = 840$$

b)

$$TA \text{ or } TSA = 2 \text{ bases} + LA$$

$$2 \left(\frac{1}{2} b \cdot h \right) + LA$$

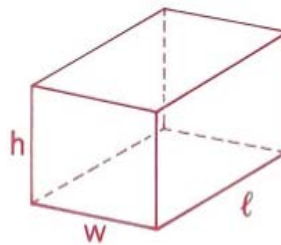
$$2 \left(\frac{1}{2} \cdot 14 \cdot 12 \right) +$$

$$2(84) + \downarrow$$

$$168 + 840 = 1008 \text{ m}^2$$

1 Find the total surface area of a right rectangular prism with the given dimensions.

- a $l = 15 \text{ cm}, w = 5 \text{ cm}, h = 10 \text{ cm}$

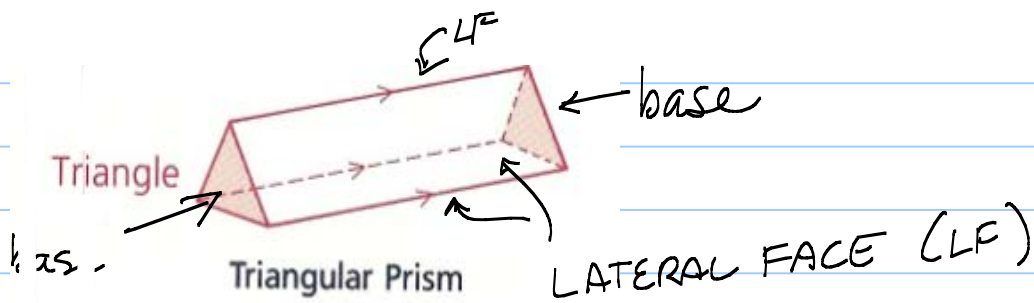


$$2h \begin{array}{|c|} \hline \\ \hline \end{array} + 2l \begin{array}{|c|} \hline \\ \hline \end{array} + 2w \begin{array}{|c|} \hline \\ \hline \end{array}$$

$l \qquad w \qquad w$

$$2 \cdot 10 \cdot 15 + 2 \cdot 15 \cdot 5 + 2 \cdot 10 \cdot 5$$

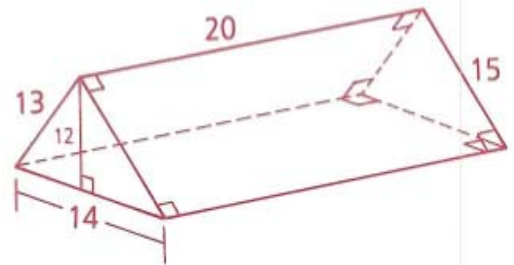
$$300 + 150 + 100 = 550 \text{ m}^2$$



Problem

Given: The right triangular prism shown

- Find: **a** Its lateral area (L.A.)
b Its total area (T.A.)



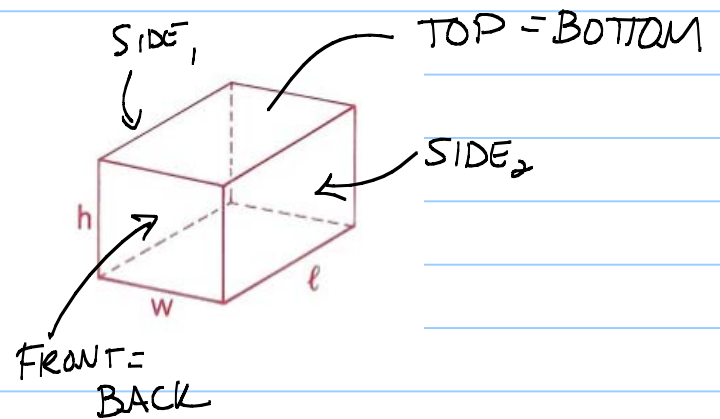
$$LA: 13 \cdot 20 + 15 \cdot 20 + 14 \cdot 20 = 260 + 300 + 280 = 840 \text{ units}^2$$

$$T.A. \text{ or } TSA: 2 \text{ bases} + LA = 2 \cdot \left(\frac{1}{2} \cdot 14 \cdot 12 \right) + 840 = 168 + 840 = 1008 \text{ units}^2$$

Q-1

- 1 Find the total surface area of a right rectangular prism with the given dimensions.

a $l = 15 \text{ cm}$, $w = 5 \text{ cm}$, $h = 10 \text{ cm}$



$$2h \begin{array}{|c|} \hline \square \\ \hline \end{array} + 2w \begin{array}{|c|} \hline \square \\ \hline \end{array} + 2h \begin{array}{|c|} \hline \square \\ \hline \end{array}$$

The diagram shows three rectangles representing the faces of the prism. The first rectangle has height h and width l . The second rectangle has width w and height l . The third rectangle has height h and width w .

$$2 \cdot 10 \cdot 15 + 2 \cdot 5 \cdot 15 + 2 \cdot 10 \cdot 5$$
$$300 + 150 + 100 = 550 \text{ m}^2$$