

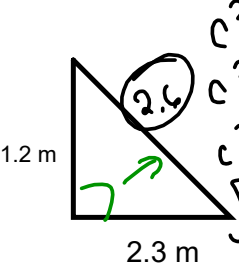
Warm-up

November 27, 2019

1. Find the missing side.

$$c^2 = a^2 + b^2$$

a.



$$c^2 = a^2 + b^2$$

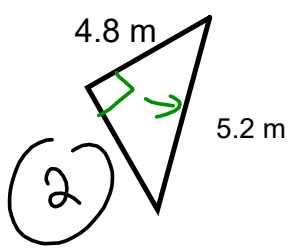
$$c^2 = 1.2^2 + 2.3^2$$

$$c^2 = 1.44 + 5.29$$

$$\sqrt{c^2} = \sqrt{6.73}$$

$$c = 2.6 \text{ m}$$

b.



$$c^2 = a^2 + b^2$$

$$5.2^2 = a^2 + 4.8^2$$

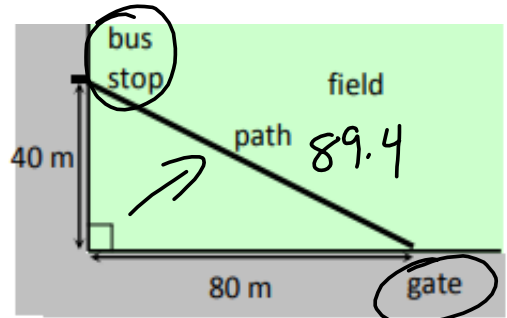
$$27.04 = a^2 + 23.04$$

$$\sqrt{a^2} = \sqrt{4}$$

$$a = 2 \text{ m}$$

2. Ken takes a shortcut along the path from the gate to the bus stop.

Calculate how much further it would have been if he had walked around the edges of the field instead.



$$c^2 = a^2 + b^2$$

$$c^2 = 40^2 + 80^2$$

$$c^2 = 1600 + 6400$$

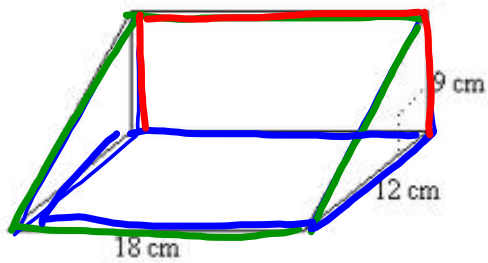
$$\sqrt{c^2} = \sqrt{8000}$$

$$c = 89.4 \text{ m}$$

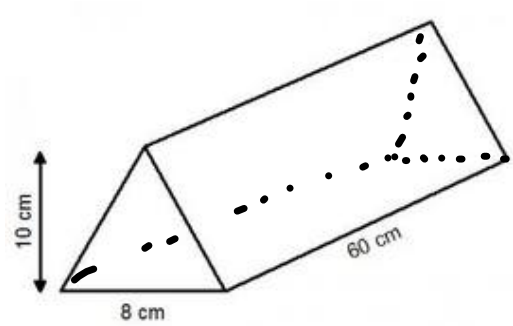
Edges $80 + 40 = 120 \text{ m}$
 Take path 89.4 m

$$120 - 89.4 = 30.6 \text{ m longer}$$

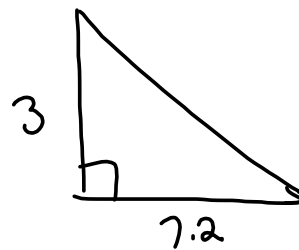
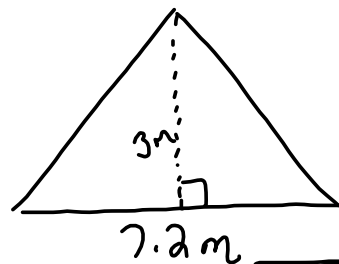
Surface area of Triangular Prism



5 faces
[2 triangles + 3 rectangles]



1. Sketch a triangle that has a base 7.2 m, height 3.0 m



Then find the area.

Remember Area of Triangle

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

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

$$\frac{(7.2)(3)}{2}$$

$$\frac{21.6}{2}$$

$$A = 10.8 \text{ m}^2$$

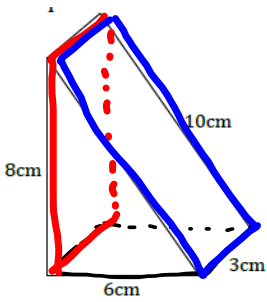
Right Triangular Prism

A right triangular prism has 5 faces:

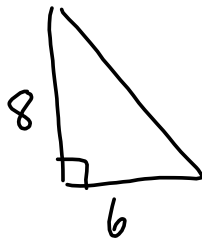
- 2 ^[same] congruent triangular faces
- 3 rectangular faces

The surface area of a triangular prism is the sum of the all 5 faces.

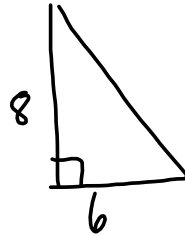
Surface area = $2 \times$ area of triangle + areas of rectangular faces



Draw the 5 faces!!!

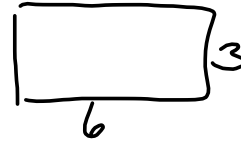


$$\begin{aligned}
 A &= \frac{bh}{2} \\
 &= \frac{8 \times 6}{2} \\
 &= \frac{48}{2} \\
 &= 24
 \end{aligned}$$

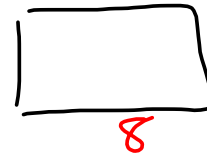


$$\begin{aligned}
 A &= \frac{bh}{2} \\
 &= \frac{8 \times 6}{2} \\
 &= \frac{48}{2} \\
 &= 24
 \end{aligned}$$

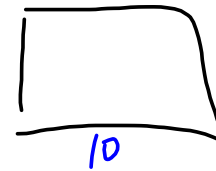
48



$$\begin{aligned}
 A &= bh \\
 &= 6 \times 3 \\
 &= 18
 \end{aligned}$$



$$\begin{aligned}
 A &= bh \\
 &= 8 \times 3 \\
 &= 24
 \end{aligned}$$



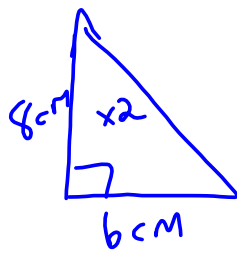
$$\begin{aligned}
 A &= bh \\
 &= 10 \times 3 \\
 &= 30
 \end{aligned}$$

72

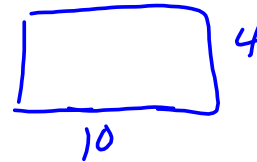
$$48 + 72 = 120 \text{ cm}^2$$



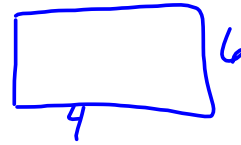
Draw 5 Faces



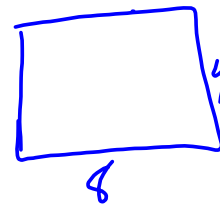
$$\begin{aligned}
 A &= \frac{bh}{2} \\
 &= \frac{8 \times 6}{2} \\
 &= \frac{48}{2} \\
 &= 24 \\
 &\times 2 \\
 \hline
 &48 \text{ cm}^2
 \end{aligned}$$



$$\begin{aligned}
 A &= bh \\
 &= 10 \times 4 \\
 &= 40
 \end{aligned}$$

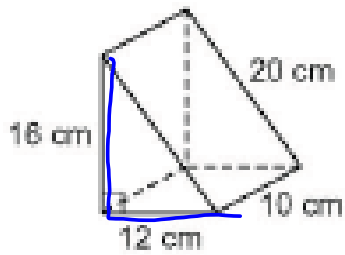


$$\begin{aligned}
 A &= bh \\
 &= 4 \times 6 \\
 &= 24
 \end{aligned}$$



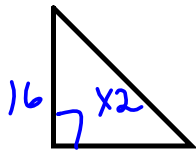
$$\begin{aligned}
 A &= bh \\
 &= 8 \times 4 \\
 &= 32 \\
 \hline
 &96
 \end{aligned}$$

$$SA = 48 + 96 = 144 \text{ cm}^2$$



Draw the faces

Find the surface area



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

$$= \frac{12 \times 16}{2}$$

$$\begin{array}{r} 12 \\ \times 16 \\ \hline 72 \\ 192 \\ \hline 192 \end{array}$$



$$A = bh$$

$$= 12 \times 10$$

$$= 120$$



$$A = bh$$

$$= 16 \times 10$$

$$= 160$$



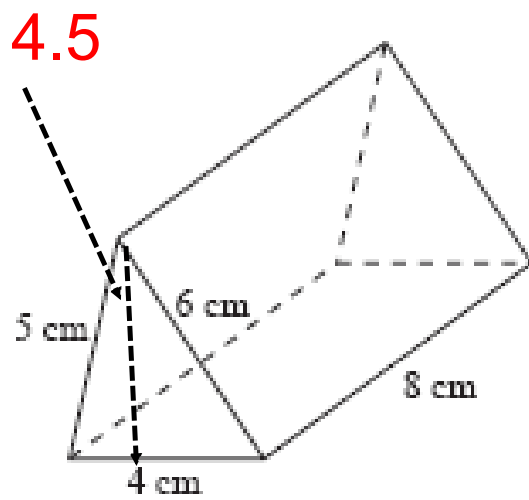
$$A = bh$$

$$= 20 \times 10$$

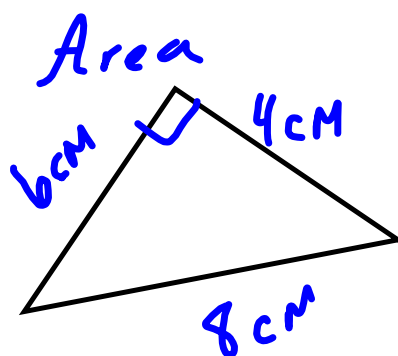
$$= 200$$

$$SA = 480$$

$$TSA = 480 + 192 = 672 \text{ cm}^2$$

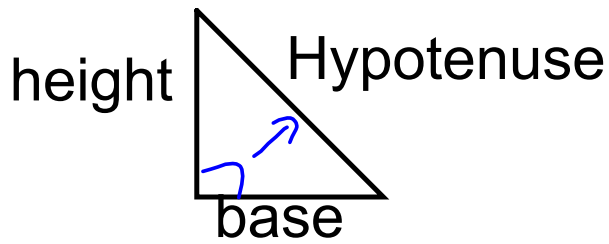
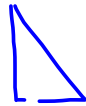


- Draw the faces
- Find the surface area



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3 d, e $\leftarrow 360 \text{ cm}^2$
 $\leftarrow 256 \text{ cm}^2$



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

Attachments

nov22.notebook