

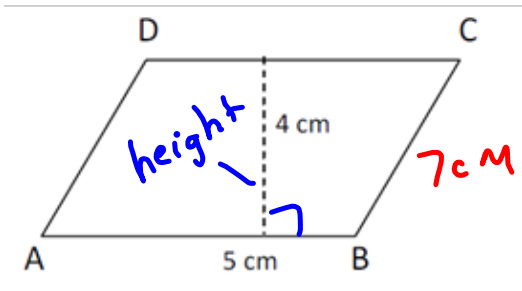
# Section 1.3

## Surface Area

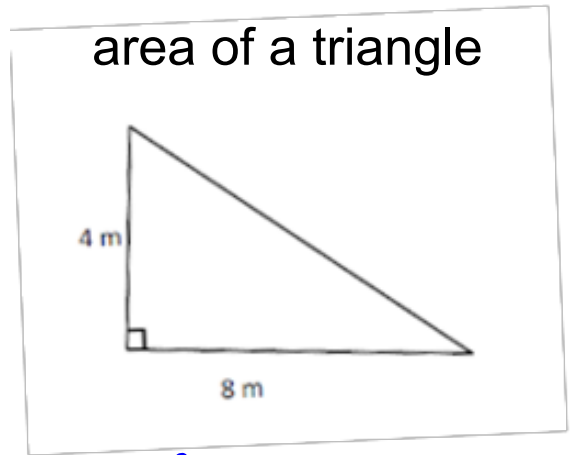
### Rectangular Prisms

Area of a rectangle  $A = bh$   
 $A = l \times w$

Area of a parallelogram



$$A = bh$$

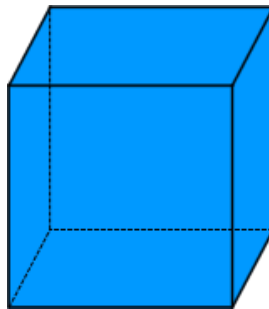


$$A = \frac{bh}{2}$$

Height is perpendicular to base!

\*\*\*Review\*\*\*

A face is one flat surface of an object

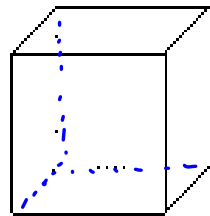


## To Find Surface Area...

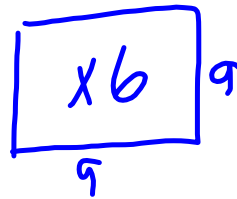
**Step 1 Draw the faces**

**Step 2 Find the area of each face**

**Step 3 Add the area of each face**



9 cm

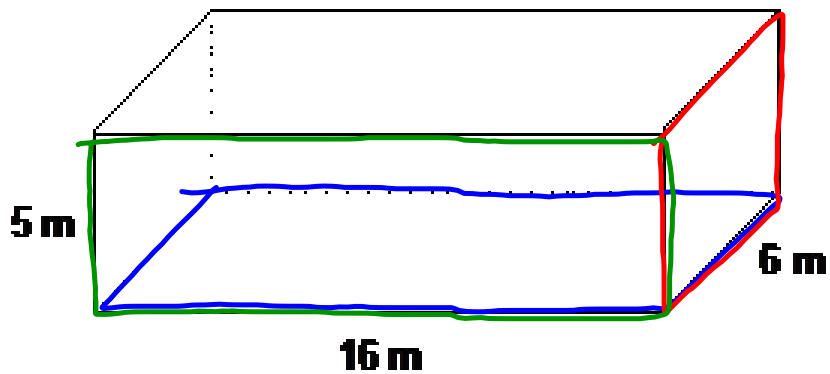


$$\begin{aligned}
 A &= bh \\
 &= 9 \times 9 \\
 &= 81 \text{ Area of one face}
 \end{aligned}$$

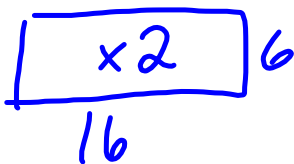
x 6 faces

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$$\begin{aligned}
 \text{Total Surface Area} &= 486 \text{ cm}^2 \\
 \text{[TSA]}
 \end{aligned}$$



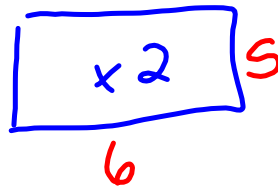
Top/Bottom



$$\begin{aligned}
 A &= bh \\
 &= 16 \times 6 \\
 &= 96 \\
 &\times \quad 2 \\
 \hline
 &192
 \end{aligned}$$

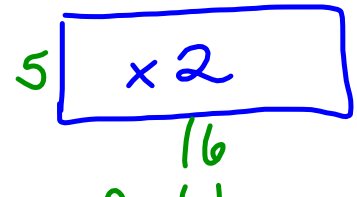
16 m

Sides



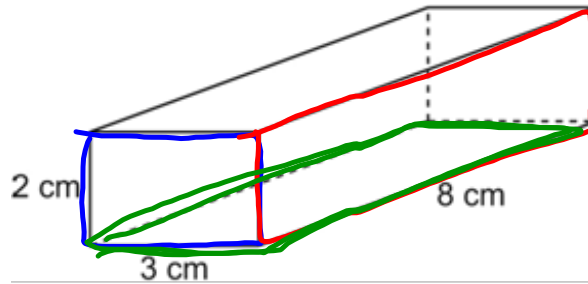
$$\begin{aligned}
 A &= bh \\
 &= 6 \times 5 \\
 &= 30 \\
 &\times \quad 2 \\
 \hline
 &60
 \end{aligned}$$

Front/Back

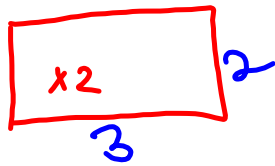


$$\begin{aligned}
 A &= bh \\
 &= 16 \times 5 \\
 &= 80 \\
 &\times \quad 2 \\
 \hline
 &160
 \end{aligned}$$

$$\begin{aligned}
 TSA &= 192 + 60 + 160 \\
 &= 412 \text{ m}^2
 \end{aligned}$$

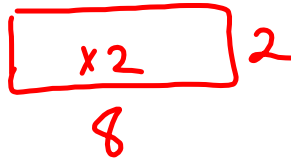


Front/Back



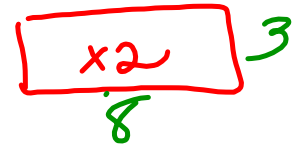
$$\begin{aligned}
 A &= bh \\
 &= 3 \times 2 \\
 &= 6 \\
 &\times 2 \\
 \hline
 &12
 \end{aligned}$$

Top/Bottom



$$\begin{aligned}
 A &= bh \\
 &= 8 \times 2 \\
 &= 16 \\
 &\times \frac{2}{32}
 \end{aligned}$$

Sides



$$\begin{aligned}
 A &= bh \\
 &= 8 \times 3 \\
 &= 24 \\
 &\times 2 \\
 \hline
 &48
 \end{aligned}$$

+

+

$$TSA = 92 \text{ cm}^2$$

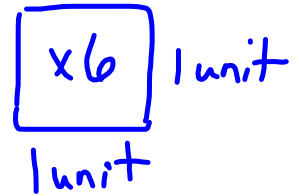
# Surface Area of Composite Objects

**A composite object is the result of combining **one or more objects** to make a **new object****



Number of Cubes	Surface Area (square units)
1	6
2	10
3	14
4	18
5	22

Surface area of "1" cube



Area of one face →  $A = bh$   
 $= 1 \times 1$   
 $= 1 \text{ units}^2$   
 $\times \frac{6 \text{ faces}}{6 \text{ units}^2}$

**\*Each connection give a loss of two faces \***