

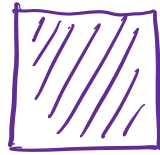
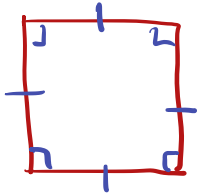
Learning Objectives:

Understand what taking the area of a shape means

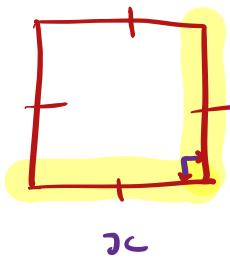
Be able to convert between units of area

Be able to find the area of squares, rectangles, parallelograms and triangles

Be able to find areas of composite shapes

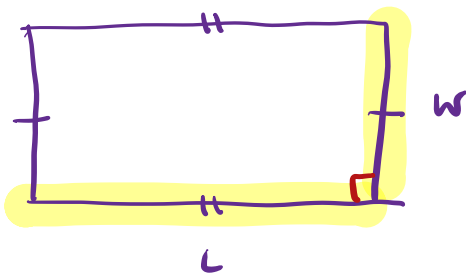


← Space inside

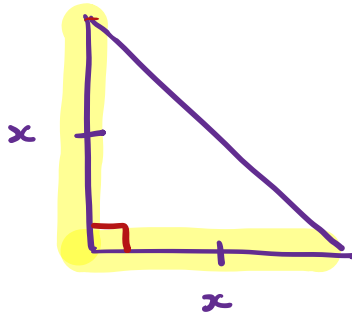


Square

$$\text{Area} = x \times x$$



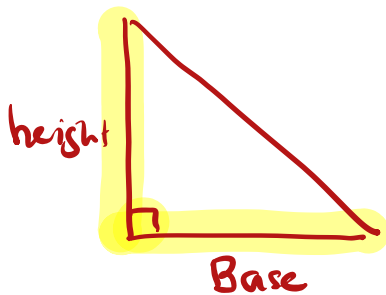
$$\text{Area} = L \times W$$



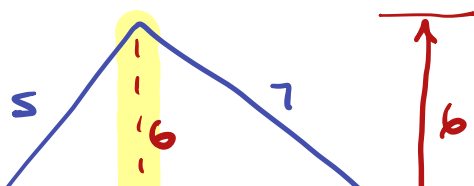
$$\text{Area} = \frac{1}{2} \times x \times x$$

$$= \frac{x \times x}{2}$$

$$= (x \times x) \div 2$$

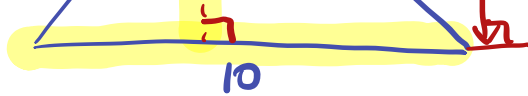


$$\text{Area} = \frac{1}{2} \times b \times h$$

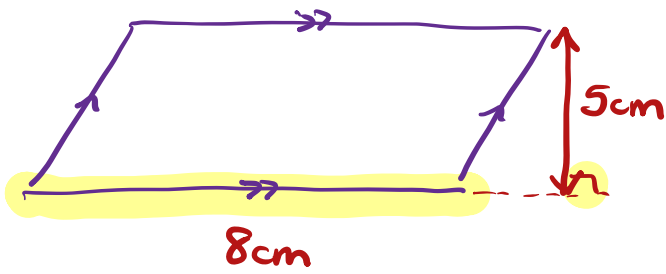


$$\text{Area} = \frac{1}{2} \times b \times h$$

$$= \frac{1}{2} \times 10 \times 6$$



$$= \underline{\underline{30 \text{ units}^2}}$$

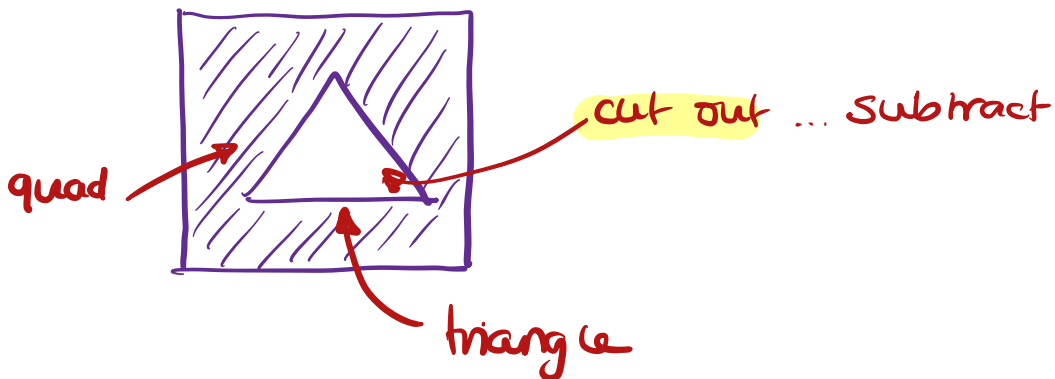
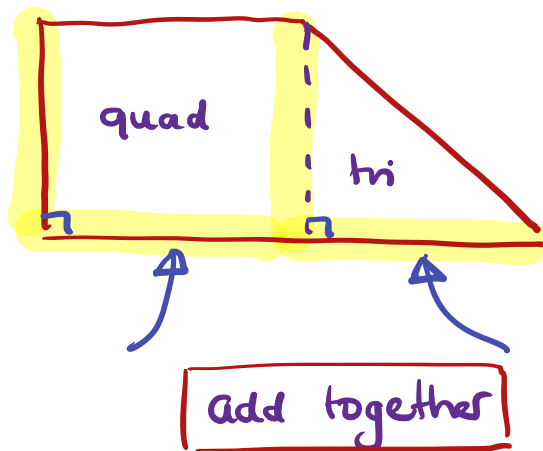


$$\begin{aligned} \text{Area} &= 8 \times 5 \\ &= \underline{\underline{40 \text{ cm}^2}} \end{aligned}$$

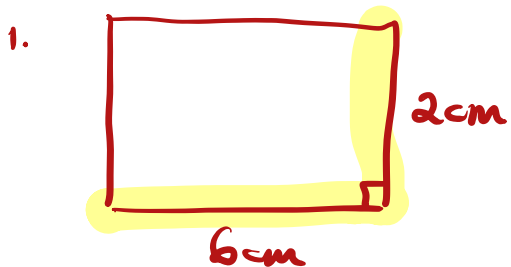
↑
units

Composite shapes

Trapezium

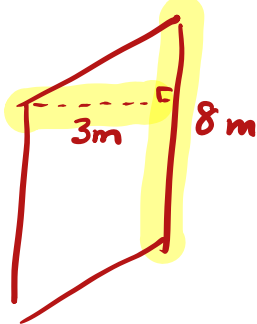


Examples



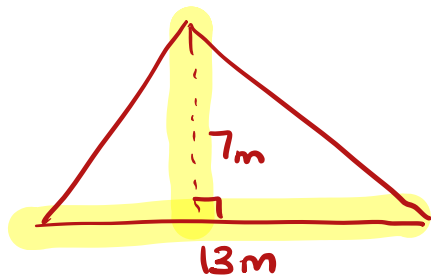
$$\begin{aligned} \text{Area} &= 6 \times 2 \\ &= \underline{\underline{12 \text{ cm}^2}} \end{aligned}$$

2.



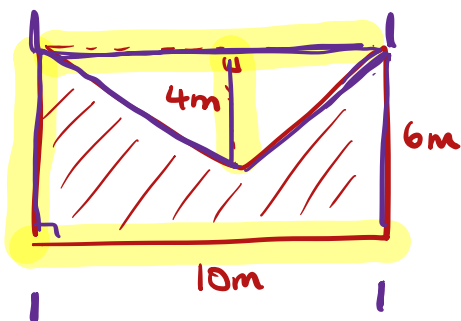
$$\begin{aligned} \text{Area} &= 8 \times 3 \\ &= \underline{24 \text{ m}^2} \end{aligned}$$

3.



$$\begin{aligned} \text{Area} &= \frac{1}{2} \times 13 \times 7 \\ &= \underline{45.5 \text{ m}^2} \end{aligned}$$

4.

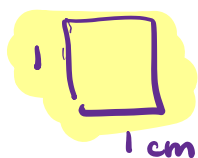
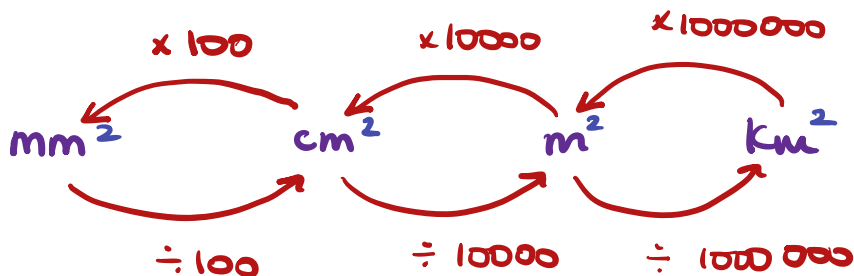


$$\begin{aligned} \text{Area}_{\square} &= 10 \times 6 \\ &= \underline{60 \text{ m}^2} \end{aligned}$$

$$\begin{aligned} \text{Area}_{\Delta} &= \frac{1}{2} \times 10 \times 4 \\ &= 5 \times 4 \\ &= \underline{20 \text{ m}^2} \end{aligned}$$

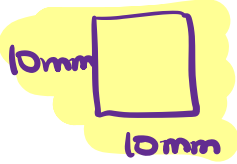
$$\begin{aligned} \therefore \text{Area} &= 60 \text{ m}^2 - 20 \text{ m}^2 \\ &= \underline{40 \text{ m}^2} \end{aligned}$$

Convert units of area



$$\text{Area} = 1 \text{ cm}^2$$

$\times 100$



$$\begin{aligned}\text{Area} &= 10 \times 10 \\ &= 100 \text{ mm}^2\end{aligned}$$

Examples

$$0.248 \text{ m}^2 \text{ (cm}^2\text{)}$$

$$\begin{aligned}&0.248 \times 10\,000 \\ &= \underline{\underline{2480 \text{ cm}^2}}\end{aligned}$$

$$\text{b) } 3100 \text{ mm}^2 \rightarrow \text{cm}^2$$

$$\begin{aligned}&31\overline{00} \div 100 \\ &= 31.00 \text{ cm}^2 \\ &= \underline{\underline{31 \text{ cm}^2}}\end{aligned}$$