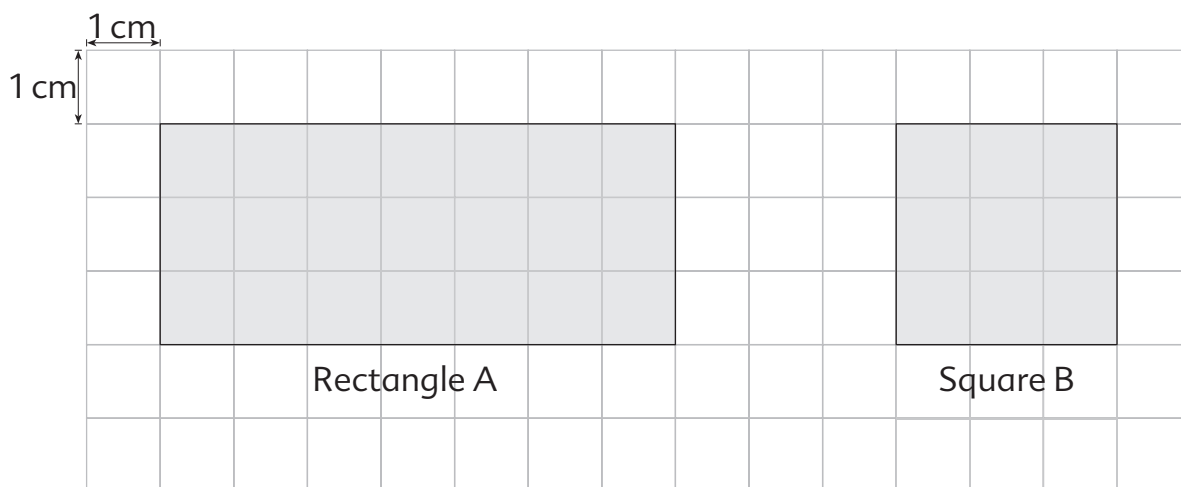


# Unit 9 : Area and Perimeter

## Friendly Notes

### Rectangles and Squares

Area of a rectangle = length  $\times$  width



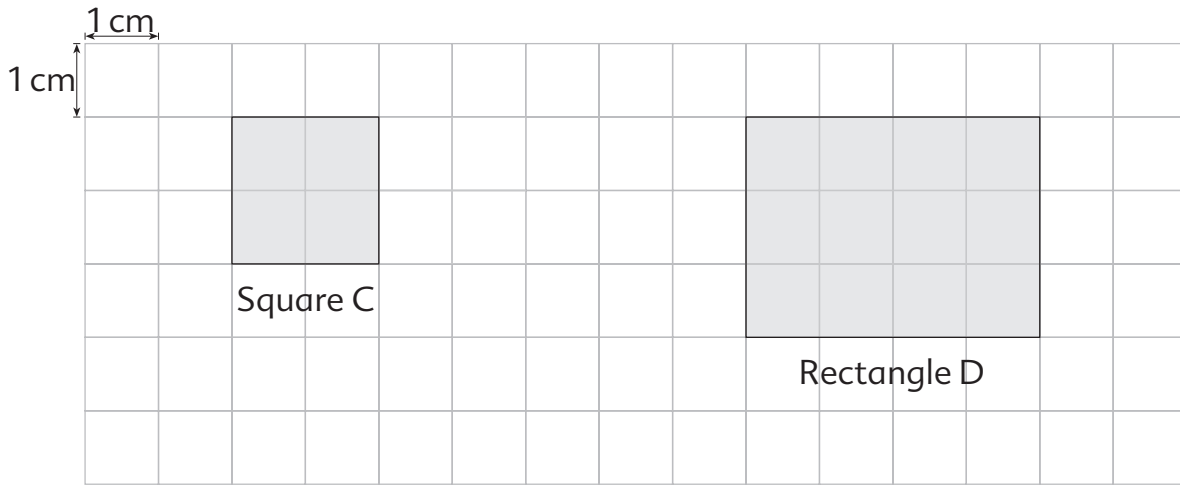
Each square in the grid has an area of  $1 \text{ cm}^2$ .  
Rectangle A has an area of  $21 \text{ cm}^2$ .  
Square B has an area of  $9 \text{ cm}^2$ .

Other units of area:  
Square inch ( $\text{in}^2$ )  
Square meter ( $\text{m}^2$ )  
Square kilometer ( $\text{km}^2$ )  
Square foot ( $\text{ft}^2$ )  
Square yard ( $\text{yd}^2$ )  
Square mile ( $\text{mi}^2$ )

$1 \text{ cm}^2 = 1$  square centimeter  
Area of Rectangle A  
 $= 7 \text{ cm} \times 3 \text{ cm}$   
 $= 21 \text{ cm}^2$   
Area of Rectangle B  
 $= 3 \text{ cm} \times 3 \text{ cm}$   
 $= 9 \text{ cm}^2$



Perimeter of a rectangle =  $2 \times (\text{length} + \text{width})$



$$\begin{aligned} \text{Perimeter of Square C} &= 4 \times 2 \\ &= 8 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{Perimeter of Rectangle D} &= 2 \times (4 + 3) \\ &= 14 \text{ cm} \end{aligned}$$

1. Find the area and perimeter of the rectangle below.



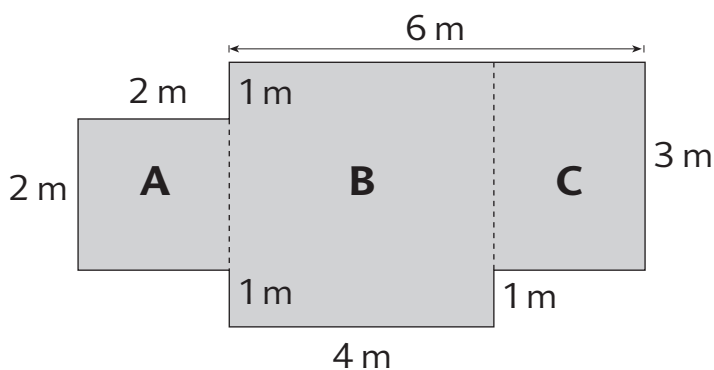
$$\begin{aligned} \text{Area of rectangle} &= 6 \text{ m} \times 3 \text{ m} \\ &= 18 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} \text{Perimeter of rectangle} &= 6 \text{ m} + 3 \text{ m} + 6 \text{ m} + 3 \text{ m} \\ &= 18 \text{ m} \end{aligned}$$

## Composite Figures

A **composite figure** is made up of more than one shape.

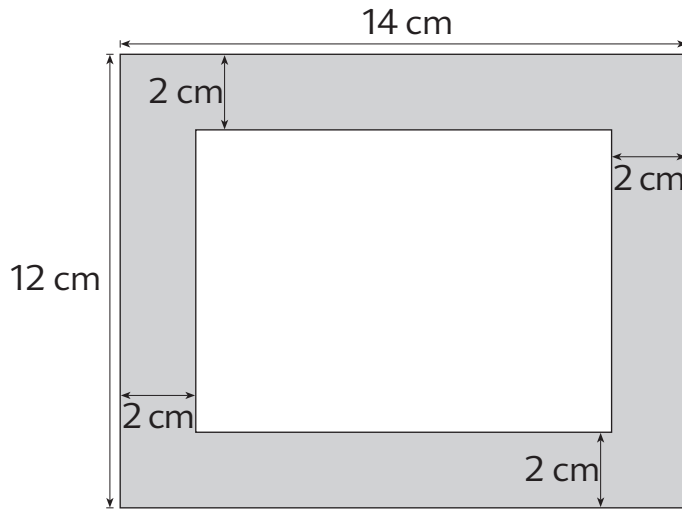
Find the area and perimeter of the figure below.



$$\begin{aligned}\text{Area of figure} &= \text{Area of A} + \text{Area of B} + \text{Area of C} \\ &= (2 \times 2) \text{ m}^2 + (4 \times 4) \text{ m}^2 + (3 \times 2) \text{ m}^2 \\ &= 4 \text{ m}^2 + 16 \text{ m}^2 + 6 \text{ m}^2 \\ &= 26 \text{ m}^2\end{aligned}$$

$$\begin{aligned}\text{Perimeter of figure} &= (6 + 3 + 2 + 1 + 4 + 1 + 2 + 2 + 2 + 1) \text{ m} \\ &= 24 \text{ m}\end{aligned}$$

2. Find the area of the shaded part of the figure.



$$\begin{aligned}\text{Area of big rectangle} &= 14 \text{ cm} \times 12 \text{ cm} \\ &= 168 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}\text{Area of small rectangle} &= 10 \text{ cm} \times 8 \text{ cm} \\ &= 80 \text{ cm}^2\end{aligned}$$

$$14 - 4 = 10$$

$$12 - 4 = 8$$

Length of small rectangle is 10 cm.

Width of small rectangle is 8 cm.

