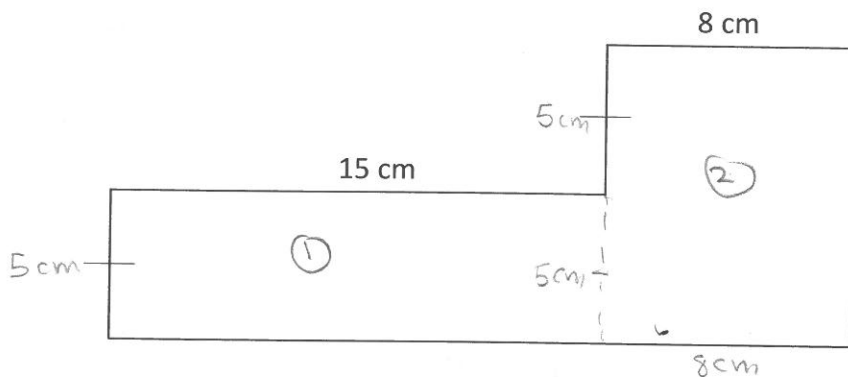


Lesson Three: Area of Irregular Shapes

There are times where you need to find the area of a shape which is not one of our 'standard' shapes (rectangle, square, triangle, circle). The following examples will show how we use formulas for the area of shapes that we already know, and apply them to new shapes.

Example 1: Area of a Composite Shape

Find the area of the figure shown below:



$$\begin{aligned} \text{Area } \textcircled{1} &= \text{length} \times \text{width} \\ &= 15 \text{ cm} \times 5 \text{ cm} \\ A_{\textcircled{1}} &= 75 \text{ cm}^2 \end{aligned}$$

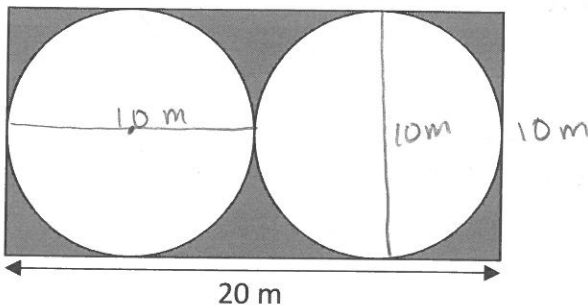
$$\begin{aligned} \text{Area } \textcircled{2} &= l \times w \\ &= 8 \text{ cm} \times 10 \text{ cm} \\ \text{Area } \textcircled{2} &= 80 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{TOTAL Area} &= \text{Area}_1 + \text{Area}_2 \\ &= 75 \text{ cm}^2 + 80 \text{ cm}^2 \end{aligned}$$

$$\text{Total Area} = \underline{\underline{155 \text{ cm}^2}}$$

Example 2: Shaded Area

Find the shaded area of the following figure:



$$\begin{aligned} \text{Area of rectangle} &= 20 \text{ m} \times 10 \text{ m} \\ &= 200 \text{ m}^2 \end{aligned}$$

$$\begin{aligned} \text{Area of circle} &= \pi r^2 \\ &= \pi (5 \text{ m})^2 \\ &= 78.54 \text{ m}^2 \end{aligned}$$

$$\text{Area of shaded area} = \text{Area of rectangle} - \text{Areas of 2 circles}$$

$$= 200 \text{ m}^2 - 2(78.54 \text{ m}^2)$$

$$= 200 \text{ m}^2 - 157.08 \text{ m}^2$$

$$\text{Area of shaded area} = \underline{\underline{42.92 \text{ m}^2}}$$