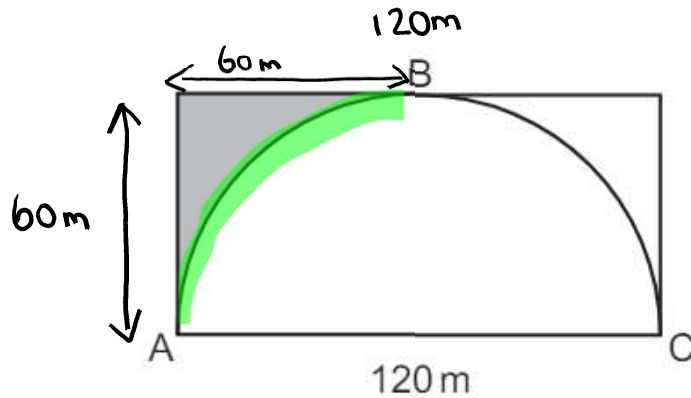


Question of the day Day 3

The diagram shows a semi-circle inside a rectangle of length 120m. The semi-circle touches the rectangle at A, B and C.

Not to scale



Calculate the **perimeter** of the shaded region.
Give your answer correct to **3 significant figures**.

Add to the diagram any other lengths you know. If the length of the rectangle is 120cm then that is the diameter of the semi-circle. So the radius must be 60cm.

We need to calculate the green length.

This is $\frac{1}{4}$ of the circumference of the circle.

$$\text{Circumference} = \pi d = \pi \times 120 = 120\pi$$

$$\frac{1}{4} \text{ of } 120\pi = 30\pi$$

$$\text{Perimeter} = 30\pi + 60 + 60$$

$$= 30\pi + 120$$

$$= 214.247796$$

rounded to 3sf

$$= 214 \text{ m}$$

..... 214 m [5]

Foundation