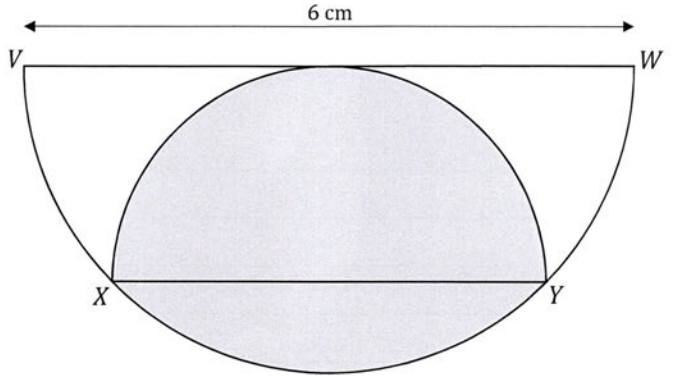
3



A large semicircle with diameter VW of 6 cm is drawn.

Then a smaller semicircle with diameter XY is drawn upside down, so that VW and XY are parallel.

The smaller semicircle touches, but does not intersect, the large semicircle, as shown in figure 1.

Show that the area of the shaded region can be written as $\left(\frac{9}{2}(\pi - 1)\right)$ cm^2.

[6 marks]