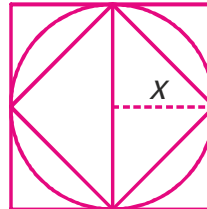


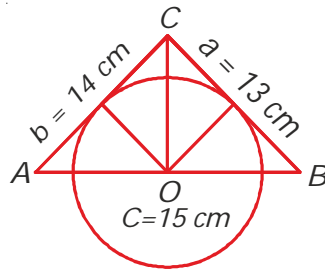
01

The difference of the area of the circumscribed and the inscribed squares of a circle is 35 sq.cm. Find the area of the circle.



Your solution here:

**02** The sides of a triangle are  $a = 13$  cm,  $b = 14$  cm,  $c = 15$  cm, the sides  $a$  and  $b$  are the tangents to a circle, whose centre lies on the third side. Find the circumference of the circle.



Your solution here:

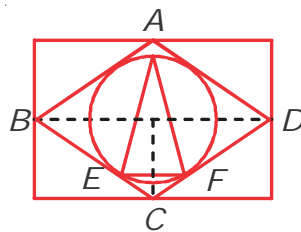
**03**

A square, whose side is 2 metres, has its corners cut away so as to form an octagon with all sides equal. Find the length of each side of the octagon, in metres.

Your solution here:

**04**

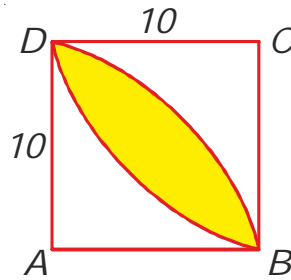
What is the area of the inner equilateral triangle if the side of the outermost square is 'a'? (ABCD is a square)



Your solution here:

05

In the figure, ABCD is a square with side 10 cm. BFD is an arc of a circle with centre C. BGD is an arc of a circle with centre A. What is the area of the shaded region ?



Your solution here:

**06**

Three horses are grazing within a semi-circular field. In the diagram given,  $AB$  is the diameter of the semi-circular field with centre at  $O$ . Horses are tied up at  $P$ ,  $R$  and  $S$  such that  $PO$  and  $RO$  are the radii of semi-circles with centres at  $P$  and  $R$  respectively, and  $S$  is the centre of the circle touching the two semi-circles with diameters  $AO$  and  $OB$ . The horses tied at  $P$  and  $R$  can graze within the respective semi-circle and the horse tied at  $S$  can graze within the circle centred at  $S$ . What is the percentage of the area of the semi-circles with diameter  $AB$  that cannot be grazed by the horses is nearest to ?

Your solution here: