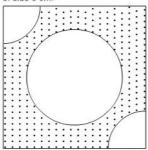


Areas Related to Circles Ex 15.4 Q16 Answer:

It is given that a circle of diameter 4.2 cm and two quadrants of radius 1.4 cm are cut from a square of side 8 cm



Let the side of square be a. Then,

Area of square = a^2

$$= 64 \text{ cm}^2$$

Since the diameter of circle is 4.2 cm. So, radius r is

$$r = \frac{4.2}{2}$$

r = 2.1 cm

Area of circle = πr^2

$$=\frac{22}{7} \times 2.1 \times 2.1$$

$$=13.86 \text{ cm}^2$$

Now area of quadrant of circle of radius 1.4 cm is,

Area of quadrant =
$$\frac{1}{4}\pi r^2$$

= $\frac{1}{4} \times \frac{22}{7} \times 1.4 \times 1.4$
= 1.54 cm²

Area of shaded region = Area of square - Area of circle - 2 × Area of quadrant

$$=64-13.86-2\times1.54$$

$$=64-16.94$$
 cm²

$$= 47.06 \text{ cm}^2$$

Areas Related to Circles Ex 15.4 Q17

Answer:

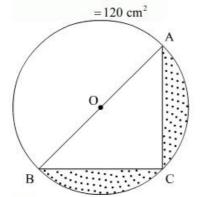
It is given a triangle ABC is cut from a circle.

$$AC = 24$$
 cm

$$BC = 10 \text{ cm}$$

Area of
$$\triangle ABC = \frac{1}{2}AC \times BC$$

= $\frac{1}{2} \times 24 \times 10$



$\ln \Delta ABC$

 $\angle ACB = 90^{\circ}$, Since any angle inscribed in semicircle is always right angle. By applying Pythagoras theorem,

$$AB^2 = AC^2 + BC^2$$

Areas Related to Circles Ex 15.4 Q18

Answer:

Area of shaded region = Area of square OABC - Area of quadrant OAPC

$$= (\mathrm{Side})^2 - \tfrac{1}{4} \pi r^2$$

$$=(7)^2 - \frac{1}{4} \times \frac{22}{7} \times 7 \times 7$$

$$=49-38.5$$

$$= 10.5 \text{ cm}^2$$

Hence, the area of the shaded region is 10.5 cm²

********* END ********