Areas Related to Circles Ex 15.1 Q1

Answer:

We know that the circumference C and area A of a circle of radius r are given by $C = 2\pi r$ and $A = \pi r^2$ respectively.

Here, $r = 4.2$ cm

So substituting the value of r in above formulas,

Circumference of the circle

$C = 2 \times \pi \times 4.2$ cm

$= 2 \times \dfrac{22}{7} \times 4.2$ cm

$= \boxed{26.4 \text{ cm}}$

Area of the circle

$A = \pi \times 4.2 \times 4.2 \text{ cm}^2$

$= \dfrac{22}{7} \times 4.2 \times 4.2 \text{ cm}^2$

$= \boxed{55.4 \text{ cm}^2}$

Areas Related to Circles Ex 15.1 Q2

Answer:

Let r cm be the radius of the circle. Then

Area of a circle is

$A = \pi r^2 \text{cm}^2$

$301.84 \text{ cm}^2 = \pi \times r^2$

$301.84 \text{ cm}^2 = \dfrac{22}{7} \times r^2$

$r^2 = 96.04 \text{ cm}^2$

$r = 9.8 \text{ cm}$

We know that the Circumference of circle of radius r is

$C = 2\pi r \text{ cm}$

So substituting the value of r in above formula

$C = 2 \times \dfrac{22}{7} \times 9.8 \text{ cm}$

$= \boxed{61.6 \text{ cm}}$

Areas Related to Circles Ex 15.1 Q3

Answer :

Let r be the radius of the circle. Then

Circumference of the circle

$$C = 2 \times \pi \times r$$

$$44 \text{ cm} = 2 \times \frac{22}{7} \times r$$

$$44 \text{ cm} = \frac{44}{7} \times r$$

$$r = \boxed{7 \text{ cm}}$$

We know that the area of a circle of radius r is

$$A = \pi r^2$$

Substituting the value of r in above formula

$$A = \pi \times 7 \times 7 \text{ cm}^2$$

$$= \frac{22}{7} \times 49 \text{ cm}^2$$

$$= \boxed{154 \text{ cm}^2}$$