



#### Areas Related to Circles Ex 15.1 Q4

**Answer :**

Let the radius of a circle be  $r$  cm, then diameter of circle is  $2r$  cm and Circumference is  $C = 2\pi r$  cm.  
It is given that the circumference exceeds the diameter of circle by 16.8 cm.

So,  $\text{circumference} = 16.8 + \text{diameter}$

$$2\pi r = 16.8 + 2r \text{ cm}$$

$$2 \times \frac{22}{7} \times r = 16.8 + 2r \text{ cm}$$

$$44r = 117.6 + 14r \text{ cm}$$

$$30r = 117.6 \text{ cm}$$

$$r = 3.92 \text{ cm}$$

Now the circumference is

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

$$= 2 \times \frac{22}{7} \times 3.92 \text{ cm}$$

$$= \boxed{24.64 \text{ cm}}$$

#### Areas Related to Circles Ex 15.1 Q5

**Answer :**

We know that the horse is tied to a pole with 28 m long string. So the horse can graze the area of a circle of radius 28 m.

Area of circle is

$$A = \pi r^2$$

$$= \frac{22}{7} \times 28 \times 28 \text{ m}^2$$

$$= \boxed{2464 \text{ m}^2}$$

Hence the horse can graze  $\boxed{2464 \text{ m}^2}$  area.

#### Areas Related to Circles Ex 15.1 Q6

**Answer :**

Let  $a$  cm be the side of square. Then area of square is

$$a^2 = 121 \text{ cm}^2$$

$$a = \sqrt{121 \text{ cm}^2}$$

$$a = 11 \text{ cm}$$

We have,

length of wire = perimeter of square

$$= 4a \text{ cm}$$

$$= 4 \times 11 \text{ cm}$$

$$= 44 \text{ cm}$$

Let the radius of circle be  $r$  cm. Then,

circumference of circle = length of wire

$$2\pi r = 44 \text{ cm}$$

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

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

Now, we will calculate area of circle.

$$\text{Area of circle} = \pi r^2 \text{ cm}^2$$

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

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

\*\*\*\*\* END \*\*\*\*\*