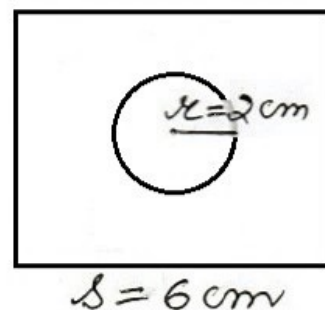


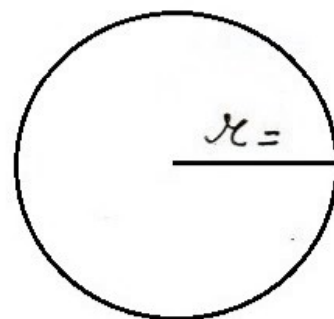
⑪ area of left over sheet

$$\begin{aligned}
 &= s^2 - \pi r^2 \\
 &= 6^2 - 3.14 \times 2 \times 2 \\
 &= 36 - 12.56 \\
 &= 23.44 \text{ cm}^2
 \end{aligned}$$



⑫ circumference = 31.4 cm

$$\begin{aligned}
 2\pi r &= 31.4 \\
 2 \times 3.14 \times r &= 31.4 \\
 \Rightarrow r &= \frac{31.4 \cancel{10} 5}{2 \times 3.14} \\
 &= 5
 \end{aligned}$$



$\Rightarrow r = 5$   $\therefore$  radius = 5 cm

$$\begin{aligned}
 \text{area of } \odot &= \pi r^2 \\
 &= 3.14 \times 5 \times 5 \\
 &= 78.5 \text{ cm}^2
 \end{aligned}$$

⑬ area of path =  $\pi R^2 - \pi r^2$

$$\begin{aligned}
 &= \pi (R^2 - r^2) \\
 &= 3.14 (37^2 - 33^2) \\
 &= 3.14 (37 - 33)(37 + 33) \\
 &= 3.14 \times 4 \times 70 \\
 &= 879.2 \text{ m}^2
 \end{aligned}$$

