


Qn. 2

What is the surface area of a cone of base diameter 20 cm and height 40 cm.

 Base radius = 15 cm
height = 40 cm

Slant height = $\sqrt{15^2 + 40^2} = \sqrt{225 + 1600}$
= $\sqrt{1825}$
= 42.72

Surface area = Base area + Curved surface area
= $\pi r^2 + \pi r l$
= $\pi r(l + r)$
= $\pi \times 15(57.72)$
= $\pi \times 15(57.72)$
= 2718.16 cm²

Qn. 3

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A cone shaped firework is of base - diameter 10 cm and height 12 cm. 10000 such fire works are to be wrapped in colour paper. The price of paper is 2 rupees per square metre. What is the total cost of wrapping?



$$\text{Base area} = \pi \times 5 \times 5 = 25\pi \text{ sq. cm}$$

$$\begin{aligned} \text{Slant height} &= \sqrt{12^2 + 5^2} = \sqrt{144 + 25} = \sqrt{169} \\ &= 13 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{Curved surface area} &= \pi r \ell \\ &= \pi \times 5 \times 13 \\ &= 65\pi \text{ sq. cm} \end{aligned}$$

$$\text{Surface area} = 25\pi + 65\pi = 90\pi$$

$$\text{Paper needed for one fire work} = 90\pi \text{ sq.cm}$$

$$\text{Paper needed for 10000 fire work} = 90\pi \times 10000$$

$$1 \text{ square metre} = 100 \times 100 \text{ square centimetre}$$

$$\text{Total surface area} = \frac{90 \times 3.14 \times 10000}{100 \times 100}$$

$$= 282.6 \text{ sq.m}$$

$$\text{Total cost} = 282.6 \times 2$$

$$= 565.2 \text{ rupees}$$