Question 67:
θ = 56° and let radius is r cm

Area of sector = $\frac{\pi r^2\theta}{360^\circ} = 17.6\ cm^2$

$$\Rightarrow \frac{22}{7} \times r^2 \times \frac{56^\circ}{360^\circ} = 17.6$$

$$r^2 = \left(\frac{17.6 \times 360 \times 7}{22 \times 56}\right) cm^2$$

$$r^2 = 36\ cm^2 \Rightarrow r = \sqrt{36}\ cm = 6\ cm$$

Hence radius = 6cm

Question 68:

$$\frac{\text{Area of sector with } \theta = 150^\circ}{\text{Area of the circle}} = \frac{\pi \times (6)^2 \times \frac{150}{360}}{\pi \times (6)^2}$$

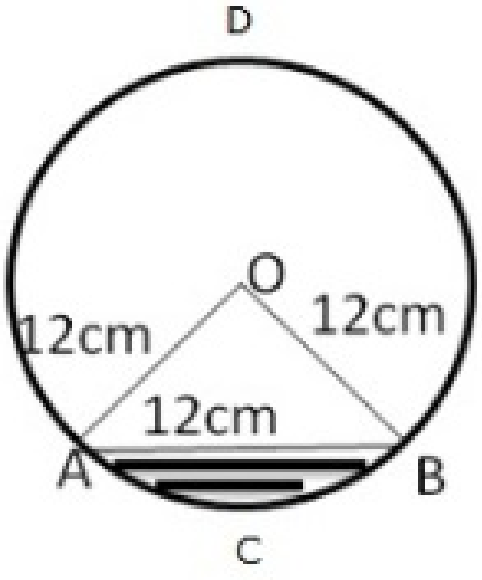
$$= \frac{150}{360} = \frac{5}{12}$$

$$\text{Required ratio} = \left(36\pi \times \frac{90}{360}\right) : \left(36\pi \times \frac{120}{360}\right) : \left(36\pi \times \frac{150}{360}\right)$$

$$= \frac{1}{4} : \frac{1}{3} : \frac{5}{12} = 3 : 4 : 5$$

Question 69:
In 2 days, the short hand will complete 4 rounds
∴ Distance travelled by its tip in 2 days
= 4(circumference of the circle with r = 4 cm)
= (4 × 2 × 4) cm = 32 cm
In 2 days, the long hand will complete 48 rounds
∴ length moved by its tip
= 48(circumference of the circle with r = 6cm)
= (48 × 2 × 6) cm = 576 cm
∴ Sum of the lengths moved
= (32 + 576) = 608 cm
= (608 × 3.14) cm = 1909.12 cm

Question 70:
ΔOAB is equilateral.
So, ∠AOB = 60°



$$\text{arc ACB} = \left(2\pi \times 12 \times \frac{60}{360}\right)\text{cm}$$
$$= 4\pi \text{ cm}$$
$$= (4 \times 3.14)\text{cm}$$
$$= 12.56 \text{ cm}$$

Length of arc BDA = (2π × 12 - arc ACB) cm
= (24π - 4π) cm = (20π) cm
= (20 × 3.14) cm = 62.8 cm
Area of the minor segment ACBA

$$= \left[\pi \times (12)^2 \times \frac{60}{360} - \frac{\sqrt{3}}{4} \times (12)^2\right]\text{cm}^2$$
$$= \left(3.14 \times 12 \times 12 \times \frac{60}{360} - \frac{1.73}{4} \times 12 \times 12\right)\text{cm}^2$$
$$= (75.36 - 62.28)\text{cm}^2 = 13.08 \text{ cm}^2$$

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