

Question 67:

 $\theta$  = 56° and let radius is r cm

Area of sector = 
$$\frac{\pi r^2 \theta}{360^{\circ}} = 17.6 \text{ cm}^2$$
  
 $\Rightarrow \frac{22}{7} \times r^2 \times \frac{56^{\circ}}{360^{\circ}} = 17.6$   
 $r^2 = \left(\frac{17.6 \times 360 \times 7}{22 \times 56}\right) \text{cm}^2$   
 $r^2 = 36 \text{ cm}^2 \Rightarrow r = \sqrt{36} \text{ cm} = 6 \text{ cm}$ 

Hence radius = 6cm

Question 68:

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

$$= \frac{150}{360} = \frac{5}{12}$$
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)
- $= (4 \times 2 \times 4) \text{ cm} = 32 \text{ cm}$

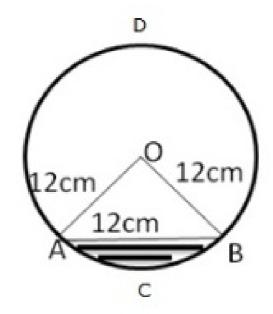
In 2 days, the long hand will complete 48 rounds

- :. length moved by its tip
- = 48(circumference of the circle with r = 6cm)
- $= (48 \times 2 \times 6) \text{ cm} = 576 \text{ cm}$
- .. Sum of the lengths moved
- = (32 + 576) = 608 cm
- $= (608 \times 3.14) \text{ cm} = 1909.12 \text{ cm}$

Question 70:

 $\Delta$ OAB is equilateral.

So, ∠AOB = 60°



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

Length of arc BDA =  $(2\pi \times 12$  - arc ACB) cm =  $(24\pi - 4\pi)$  cm =  $(20\pi)$  cm =  $(20 \times 3.14)$  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 \*\*\*\*\*\*\*\*