Qn. 1

What is the base radius and slant height of the cone made by rolling up a sector of radius 10 cm and central angle 60^0?

Slant height of the cone = radius of the sector

= 10 cm

Base radius of the cone $= 10 \times \frac{60}{360}$

$= 10 \times \frac{1}{6} = 1.66$ cm

Qn. 2

What is the central angle of the sector needed to make a cone of base radius 10 cm and slant height 25 cm?

Radius of the sector = Slant height of the cone.

Radius of the sector = 25 cm

Radius of the small circle, which is the base of the cone is $\frac{10}{25}$.

Part of the radius of the large circle where the sector cut off.

Central angle of the sector $= 360 \times \frac{10}{25} = 144^0$

Qn. 3

What is the ratio of the base - radius and slant height of a cone made by rolling up a semicircle?

Let 'r' be the radius of the semicircle slant height of the cone made by rolling up a semicircle is also be 'r'. Circumference of the semicircle = πr ,

Circumference of the cone = $2\pi r$

That is $2\pi r = \pi r$

Radius of the cone $r = \frac{\pi r}{2\pi} = \frac{r}{2}$

Slant height of the cone is twice its radius.

Radius : Slant height = 1 : 2