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

Here length of arc of the sector is $\frac{1}{2}$ of the circumference of the circle. So radius of the small circle is $\frac{1}{2}$ of the radius of the larger one. Slant height of the cone is radius of the larger circle. If radius of the larger circle is R and that of the smaller one is r.

Slant height of cone = R

Base radius of cone = $r = \frac{R}{2}$

$\therefore$ Ratio of radius and slant height $= r : R = \frac{R}{2} : R$

$= \frac{1}{2} : 1 = 1 : 2$