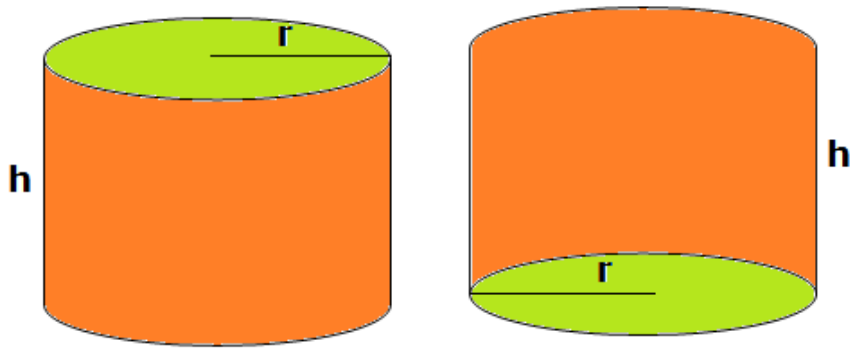


Cylinder

1. curved surface area (shaded orange) = 2 л r h

2. area of top/ bottom (shaded green) = л r^2

3. total surface area = csa + area of top + area of bottom

$= 2 л r h + л r^2 + л r^2$

$= 2 л r h + 2 л r^2$

$= 2 л r (r + h)$

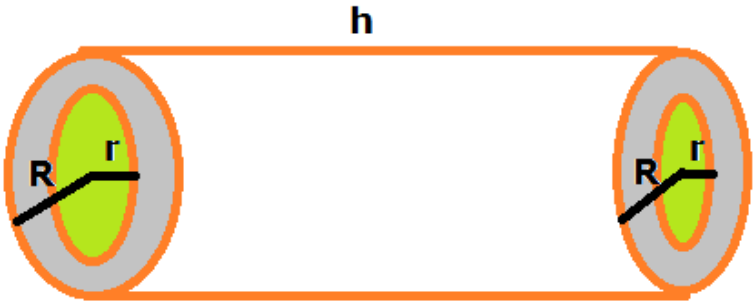
4. area of curved surface and bottom = $2 л r h + л r^2$

$= л r (2 h + r)$

Example: Inner surface area of a open vessel.

5. volume = $л r^2 h$

Hollow Cylinder



1. Volume = $л R^2 h - л r^2 h$

$= л h (R^2 - r^2)$

2. total surface area = inner csa + outer csa + area of two side rings

$= 2 л r h + 2 л R h + л (R^2 - r^2)$

Compiled by Dev Anoop