

Mensuration Formulas Class 10

Formulas Related to 2D Figures

Name of the Shape	Perimeter (or Circumference)	Area
Circle	$2\pi r$	πr^2
Triangle	$a + b + c$	$(\frac{1}{2}) \times \text{Base} \times \text{Height}$
Square	$4a$	a^2
Rectangle	$2(l + b)$	lb
Parallelogram	$2(l + b)$	$b \times h$
Rhombus	$4 \times \text{side}$	$(\frac{1}{2}) \times d_1 \times d_2$
Trapezium	$a + b + c + d$	$(\frac{1}{2}) \times h \times (a + b)$

Formulas Related to 3D Figures

Name of the Shape	LSA or CSA (Lateral or Curved Surface Area)	TSA (Total Surface Area)	Volume
Cube	$4a^2$	$6a^2$	a^3
Cuboid	$2h(l + b)$	$2(lb + bh + hl)$	$l \times b \times h$
Cone	$\pi r l$	$\pi r(r + l)$	$(\frac{1}{3}) \times \pi r^2 h$
Cylinder	$2\pi r h$	$2\pi r(r + h)$	$\pi r^2 h$
Sphere	$4\pi r^2$	$4\pi r^2$	$(\frac{4}{3}) \times \pi r^3$
Hemisphere	$2\pi r^2$	$3\pi r^2$	$(\frac{2}{3}) \times \pi r^3$

Formulas Related to Circles

Parameters of Circles	Formulas
Area of the sector of angle θ	$(\theta/360^\circ) \times \pi r^2$
Length of an arc of a sector of angle θ	$(\theta/360^\circ) \times 2\pi r$
Area of major sector	$\pi r^2 - (\theta/360^\circ) \times \pi r^2$
Area of a segment of a circle	Area of the corresponding sector – Area of the corresponding triangle
Area of the major segment	$\pi r^2 - \text{Area of segment (minor segment)}$