CLASS 10 MATHS – CHAPTER 10

AREAS RELATED TO CIRCLE – ALL FORMULAE

Basic Idea

- Circle → all points equidistant from centre
- Radius (r) → centre to circle
- Diameter = 2r
- π = 22/7 or 3.14
- Used in real-life designs
- Plane figure
- Symmetrical shape

Circle Formula

- Circumference = 2πr
- Area of circle = πr^2
- Depends on radius
- Units → cm, m^2 etc.
- π value important

Sector & Arc

- Sector → region between 2 radii
- Area of sector = $\frac{\theta}{360^\circ} \times \pi r^2$
- Minor & major sector
- Arc → part of circumference
- Arc length = (θ/360) × 2πr
- θ = central angle
- Based on proportion

Segment & Triangle

- Segment → chord + arc region
- Minor & major segment
- Area = sector – triangle
- First find sector area
- Then find triangle area
- Subtract both
- Use trig for triangle

Applications & Tricks

- Used in parks, roads, designs
- Pizza/clock type problems
- Combination of figures
- Break shapes into parts
- Add/subtract areas
- Use correct π value
- Don’t confuse arc & area