

Chapter 9.2

Reflection of Light by Spherical Mirrors

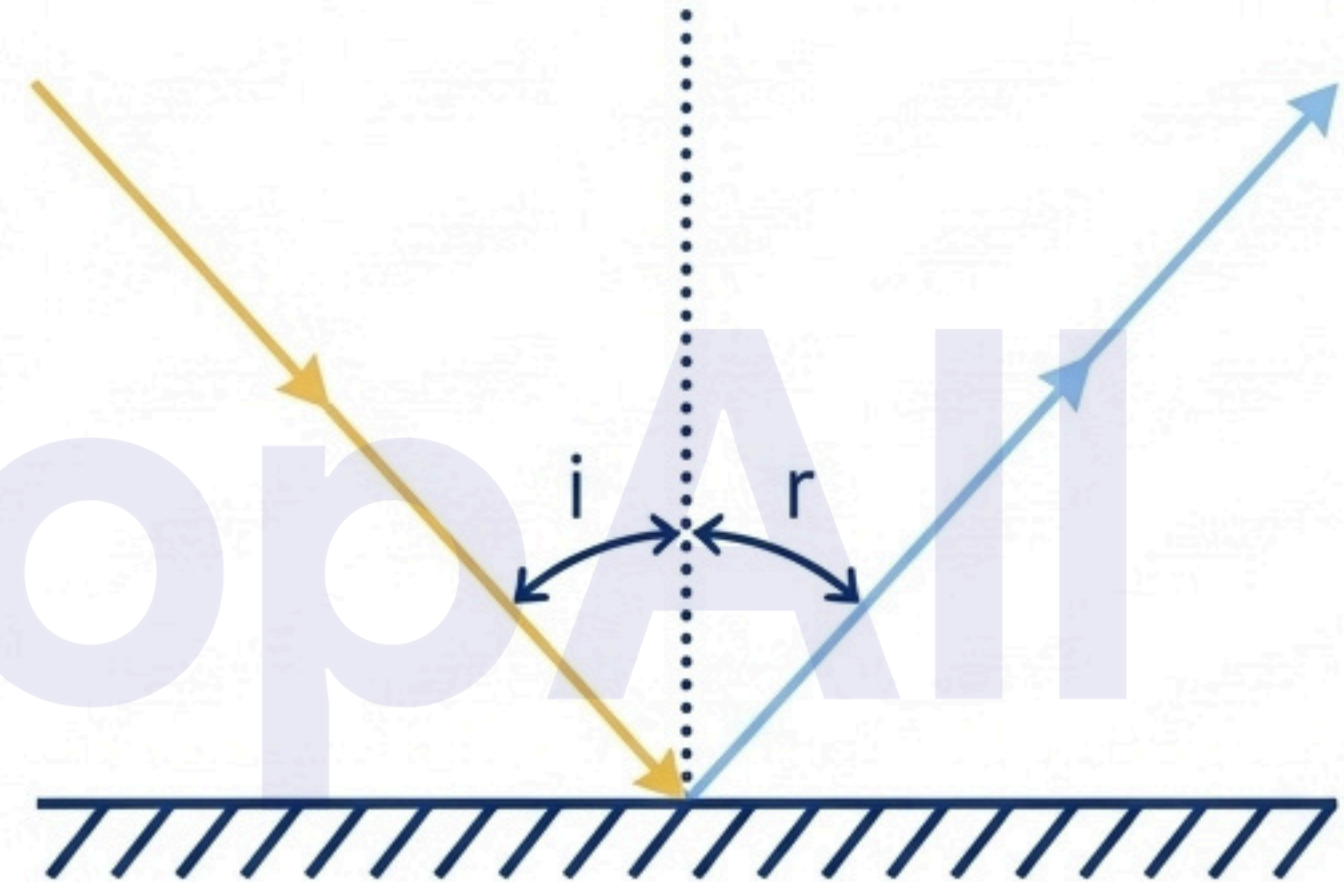
Geometric principles of curved optical surfaces.

The Laws of Reflection

- **Rule 1:** The angle of incidence (i) equals the angle of reflection (r).
- **Rule 2:** The incident ray, reflected ray, and the normal at the point of incidence all lie in the same plane.

Note:

Note: These laws are universally valid for any reflecting surface, whether plane or curved.



Defining the Spherical Mirror



A curved reflecting surface is a section cut from a hollow sphere.



Because it originates from a sphere, it inherits a geometric center, giving the curve a predictable, constant radius.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



Turn theory into marks with **unlimited MCQs, smart analysis, and focused revision.**

Practice Now



At prep.topall.app

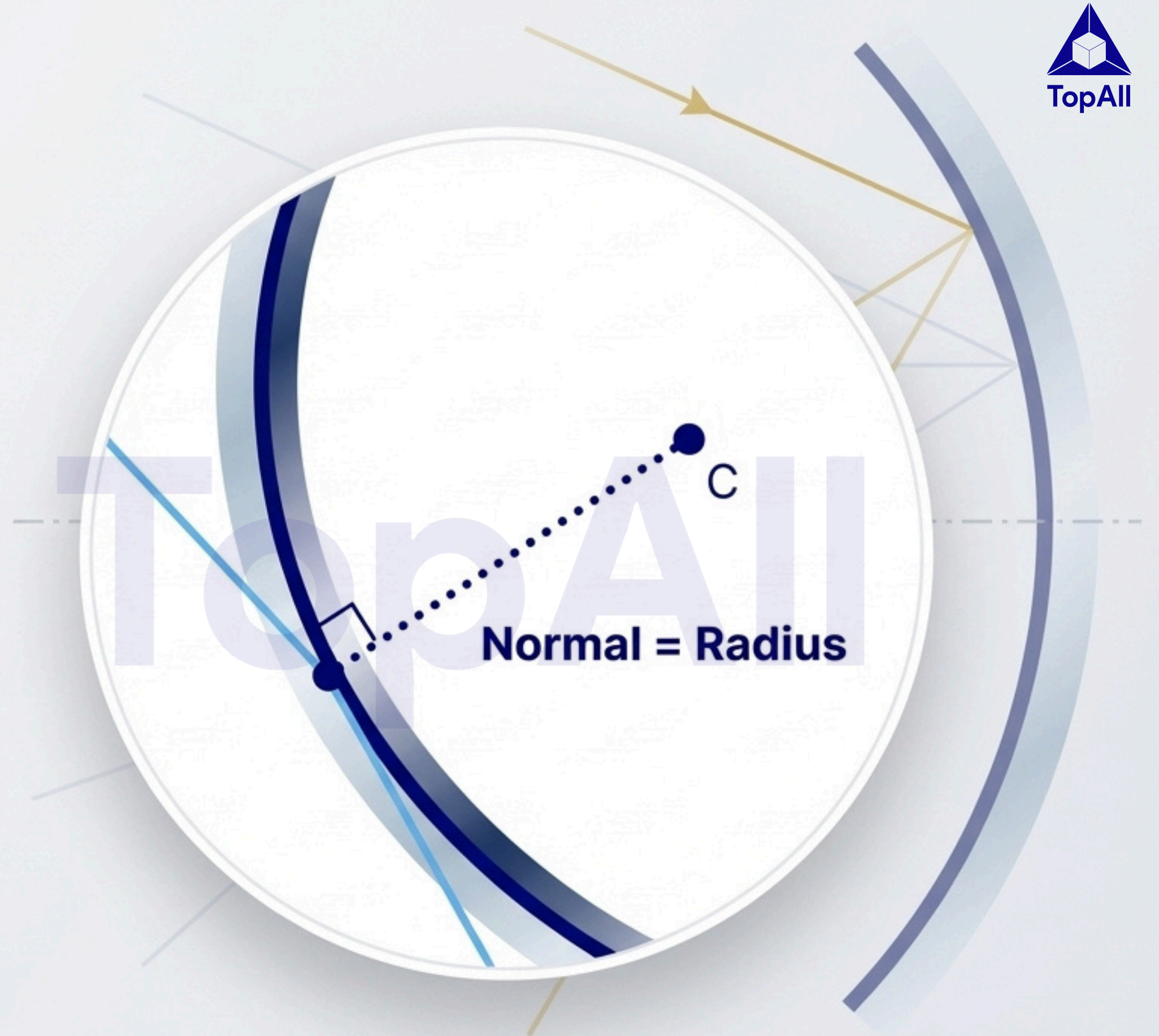
Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter



Finding the Normal on a Curve

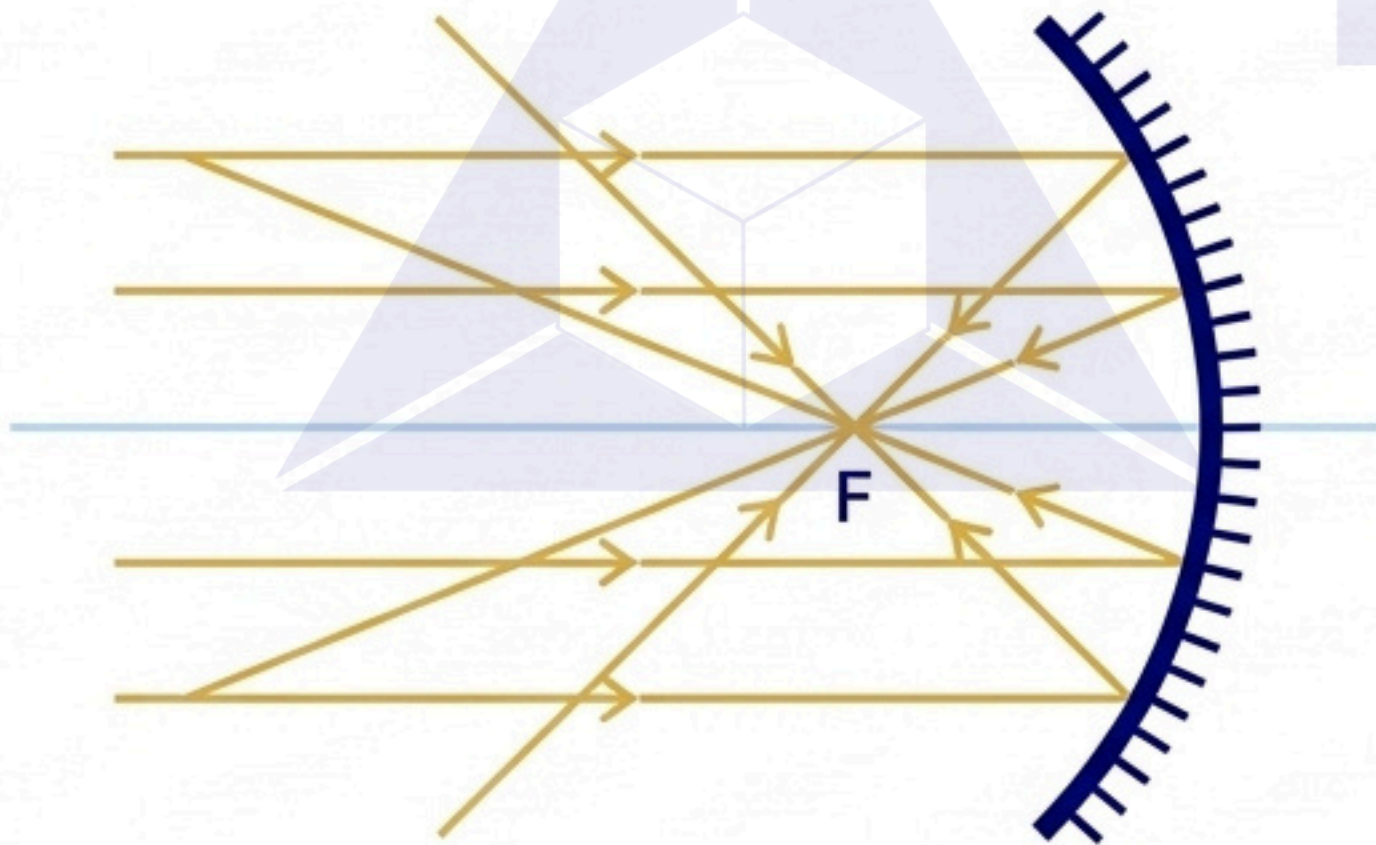
Golden Rule: On a spherical mirror, the normal is always along the radius.



Two Geometries, Two Behaviors

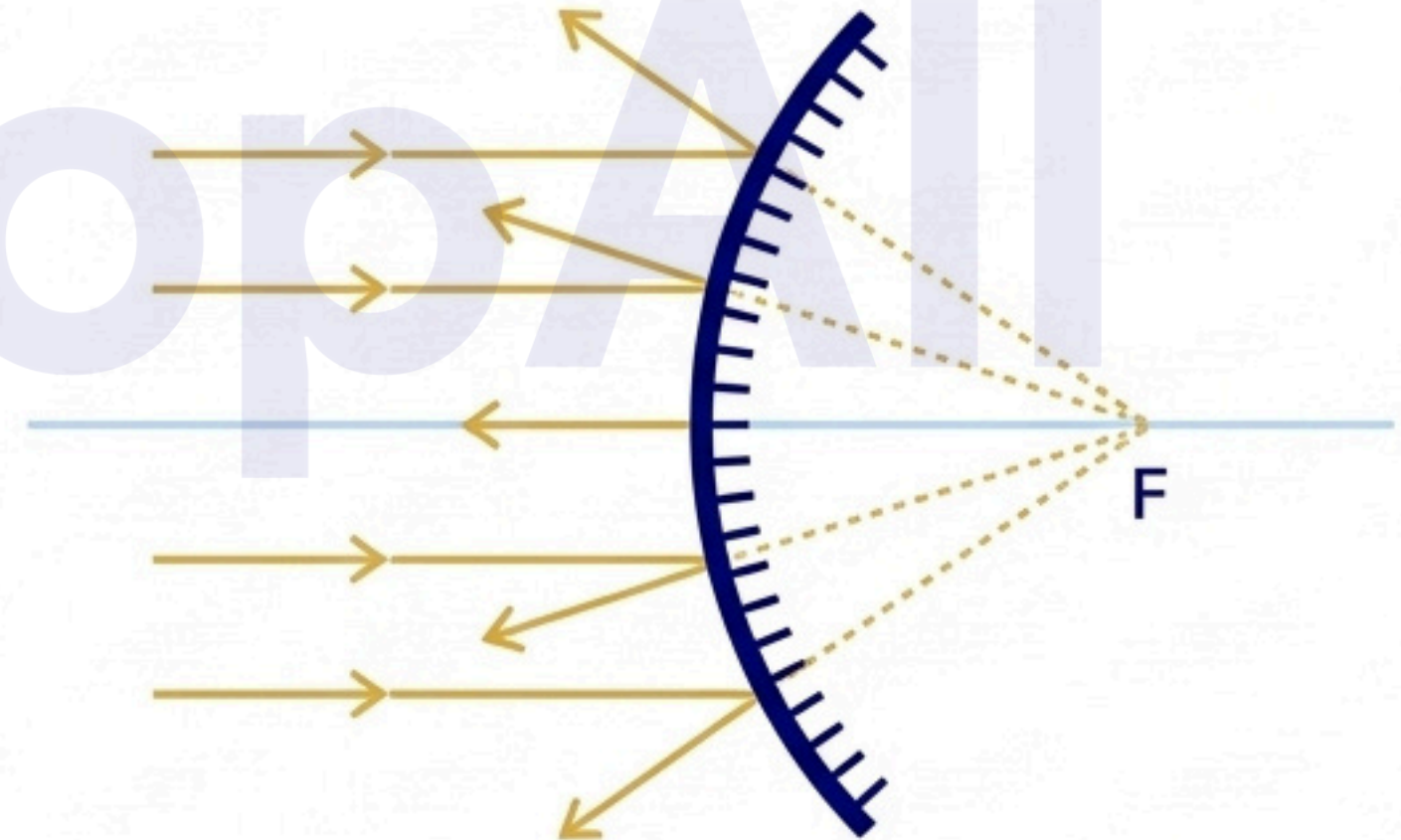
Converging

Reflecting surface faces towards the center of the sphere.

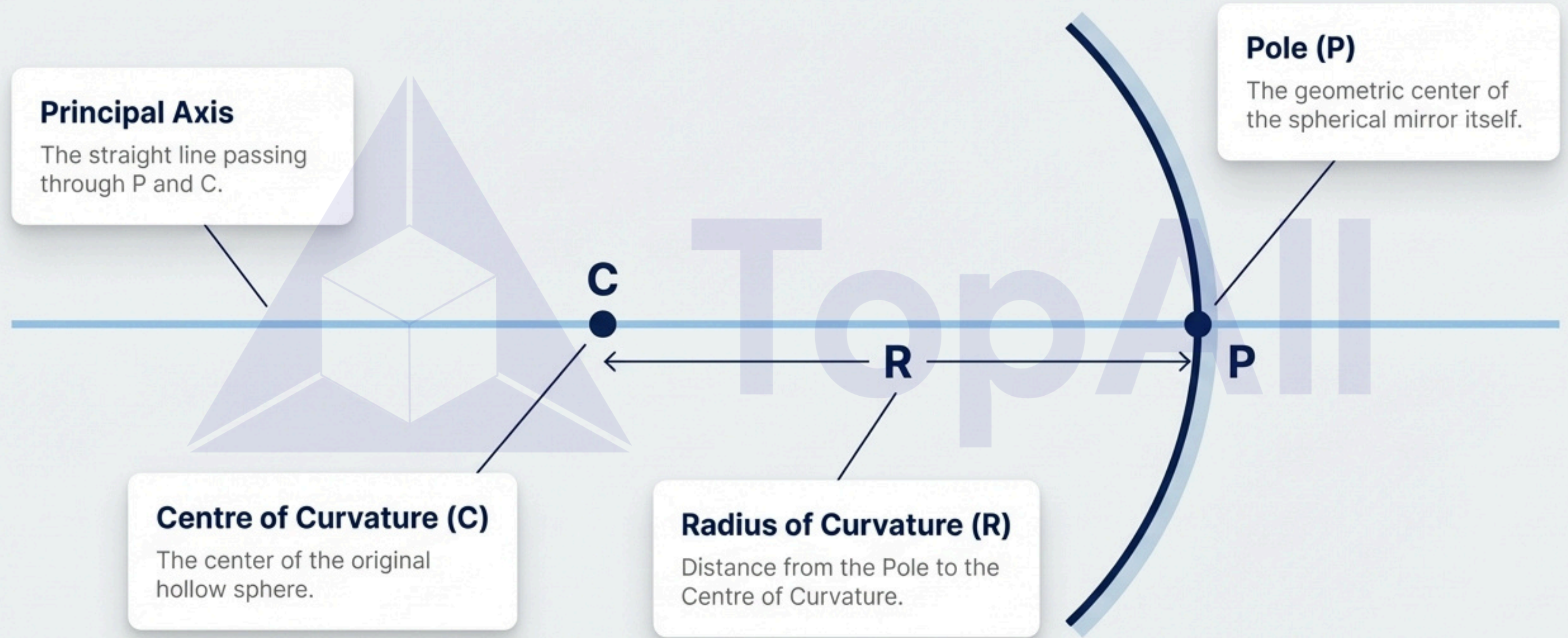


Diverging

Reflecting surface faces away from the center of the sphere.



Anatomy of a Spherical Mirror



High-Yield Exam Summary

Universal Laws

The Laws of Reflection ($i = r$, coplanar) apply at every specific point on a curved surface just as they do on a flat plane.

The Normal Rule

The normal at any point of incidence on a spherical mirror is perpendicular to the tangent and always passes through the Centre of Curvature (C).

Mirror Types

Concave = converges parallel light rays.
Convex = diverges parallel light rays.

Both shapes are defined by a Pole (P) and a Principal Axis.



You've Learned the Theory.

Now Let's Test It.

Reading notes gets you knowledge.

Practicing MCQs gets you marks.

That's exactly what TopAll Pro is built for.

Try TopAll Pro Now

What TopAll Pro Does Differently

-  **Stuck? Snap it. Solve it. — Doubts AI**
Photo → step-by-step solution in seconds, 24/7
-  **Your AI Coach finds your blind spots**
Concept-level weakness detection — not just chapter-level
-  **4.5 Lakh+ questions. Never run out.**
13× more content than any other prep app in India
-  **Build your own test in 60 seconds**
Pick a chapter, set difficulty — AI does the rest instantly.
-  **AI Recommendation that helps you improve**
AI Recommendation Analysis your Tests and tell you where you need to improve.



Practice the moment you finish studying
Jump in while the concept is still fresh in your head

4.5L+
MCQs

1.5L+
Students

AI Powered
In-Depth Analysis