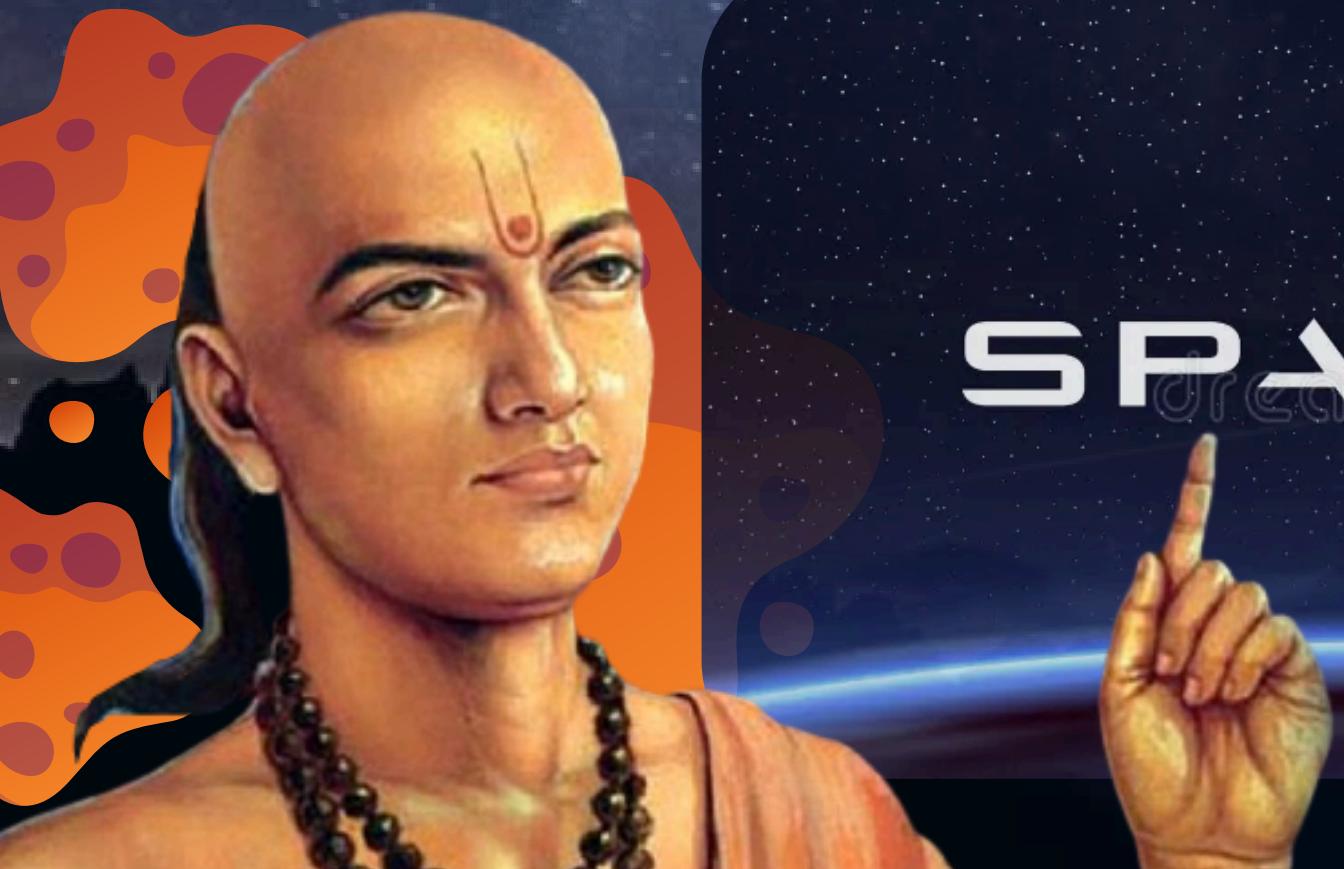


MATHSTRONOMICA

Space + Maths = Connection



WHAT IS MATHSTRONOMICA ?

Mathstronomica is not just a model!!

It's a **MINI SPACE SYSTEM** built on pure mathematics.

- Satellites orbiting dynamically around the earth
- Real-time visual of how **ORBITAL MECHANICS** actually work
- A fun, scientific way to understand satellite technology



WHY SATELLITES MATTER ?

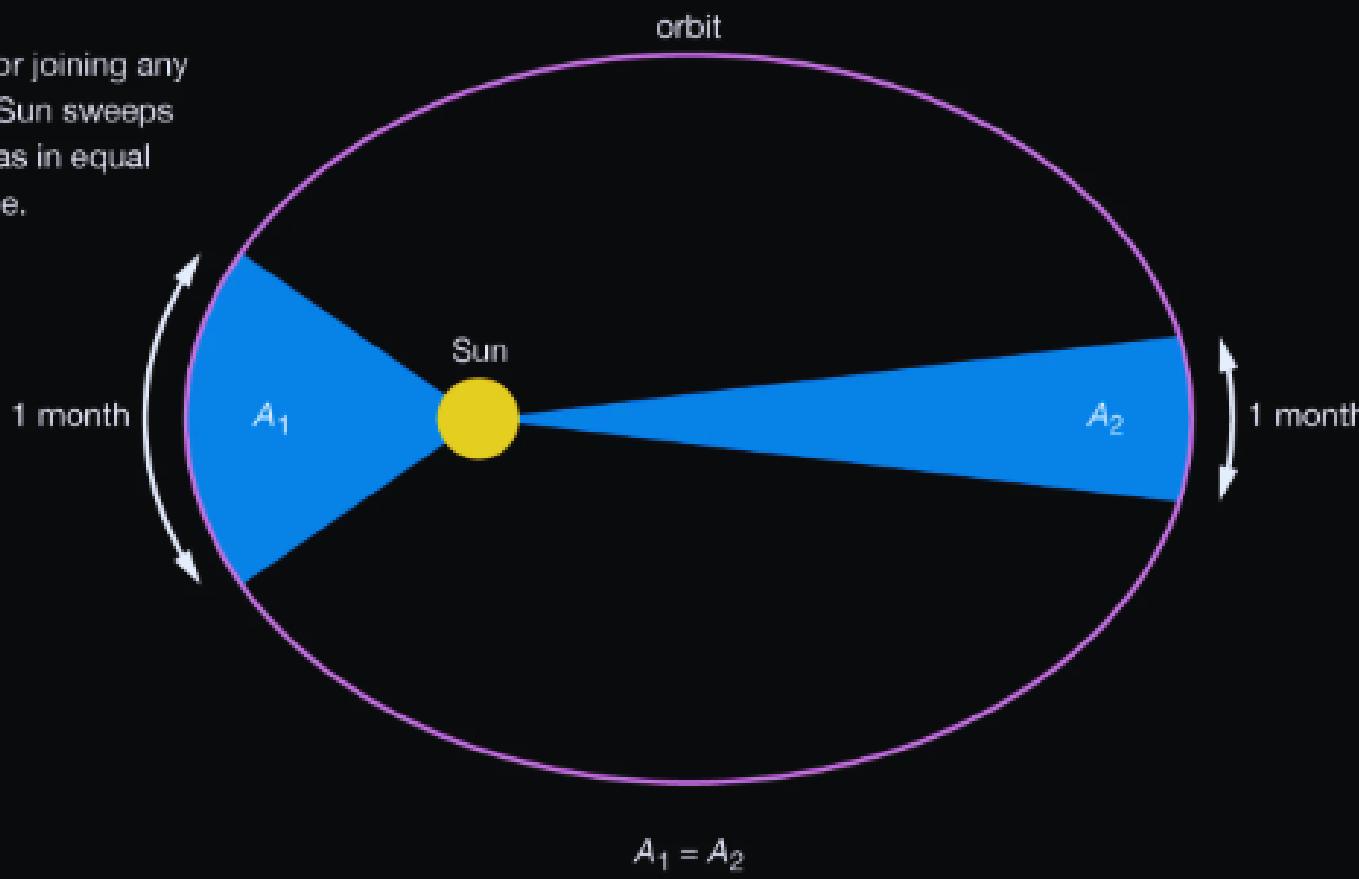
- **GPS & Navigation**
 - **Defence Tracking**
 - **Weather Prediction**
 - **Communication Signals**
 - **Disaster Alerts**
- ...

ORBITAL MECHANICS

Kepler's Law

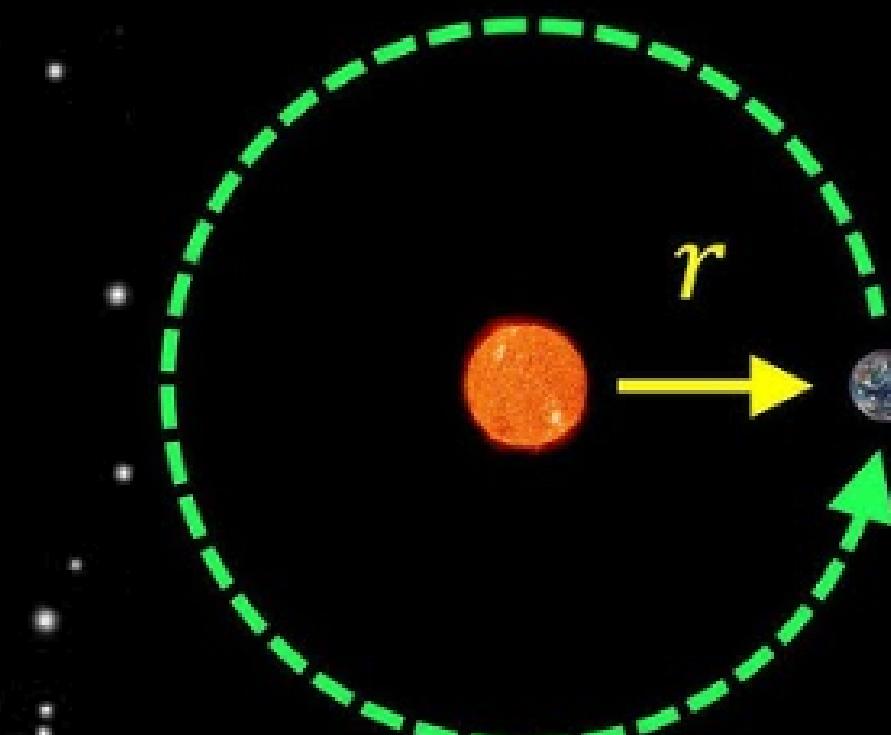
1 law

A vector joining any point on the Sun sweeps equal areas in equal intervals of time.

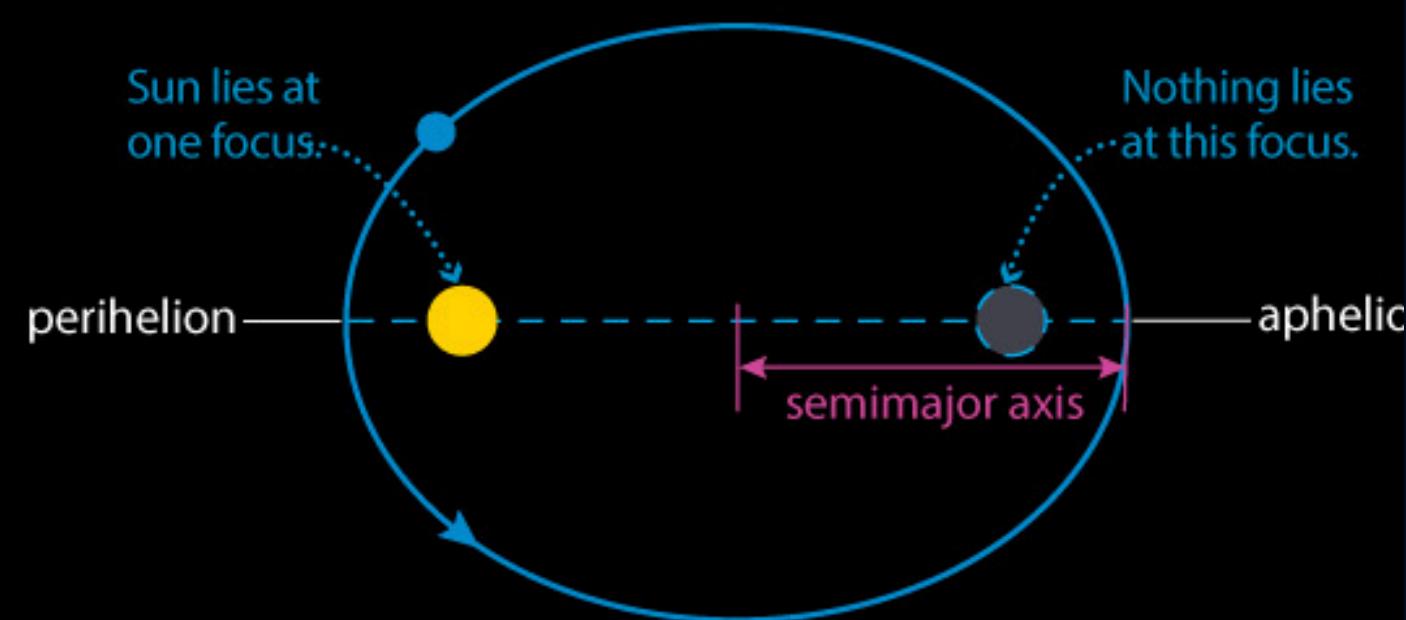


$$T^2 \propto R^3$$

WHY DO SATELLITES NOT FALL?



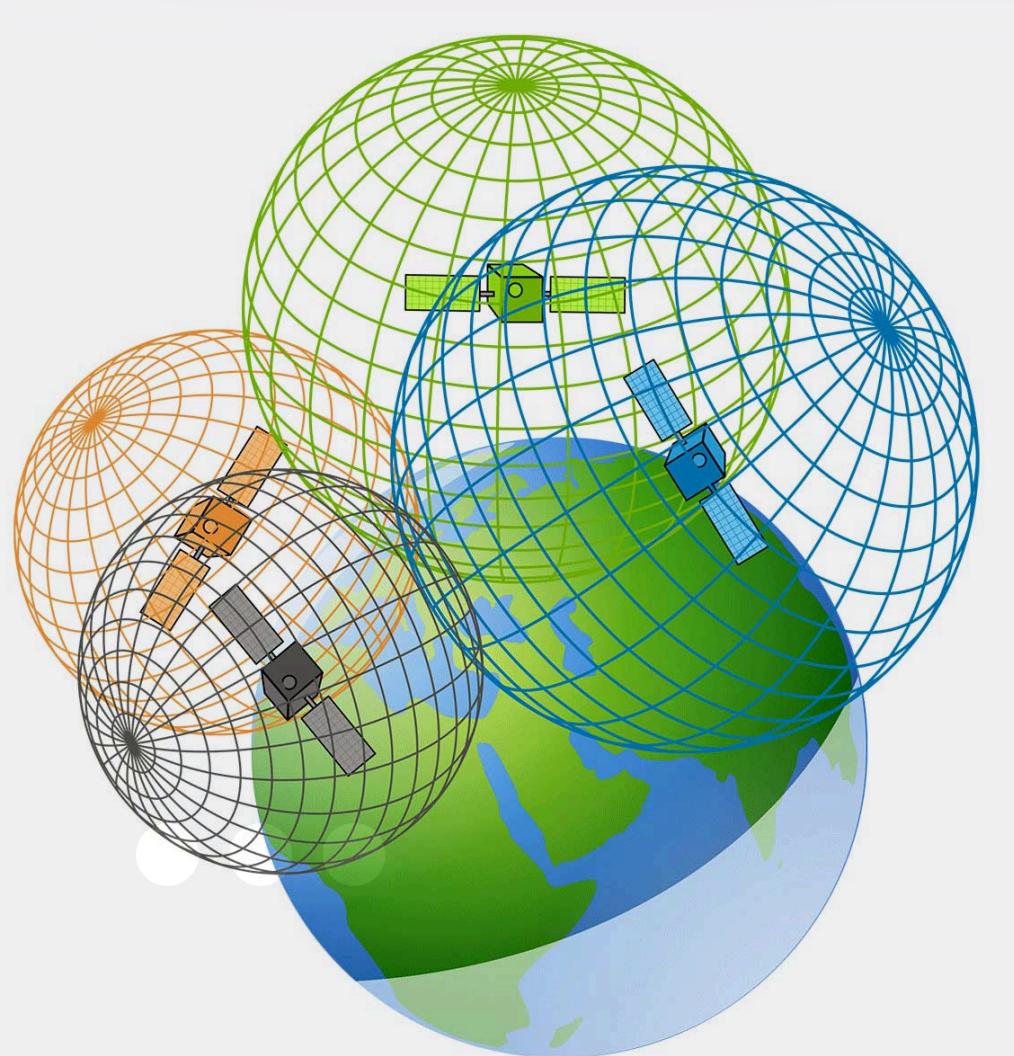
$$V = \sqrt{\frac{GM}{r}}$$



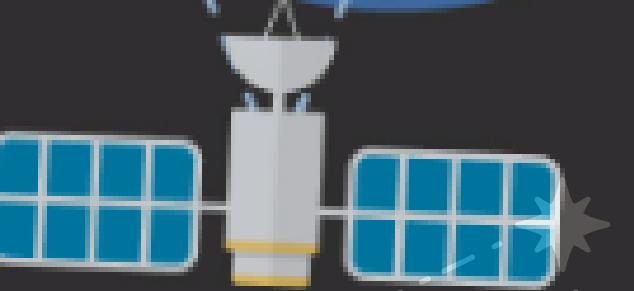
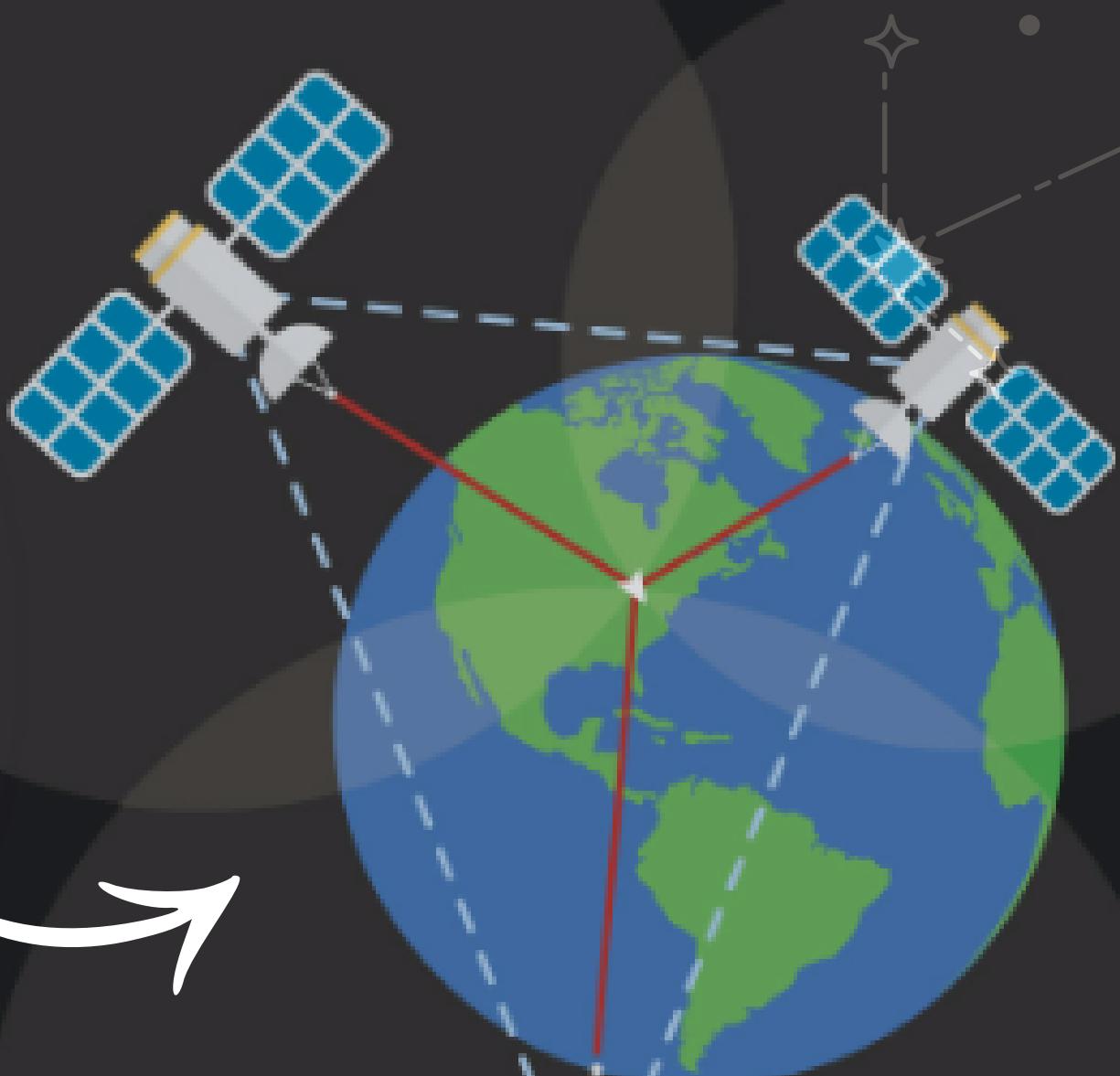
HOW DOES MATHSTRONOMICA DEMONSTRATE THIS?

- Rotation of The Earth Clockwise
- Anti-clockwise satellite motion
- Stable orbit simulation
- Explains seasonal, day-night & orbit paths
- Demonstrates space physics visually

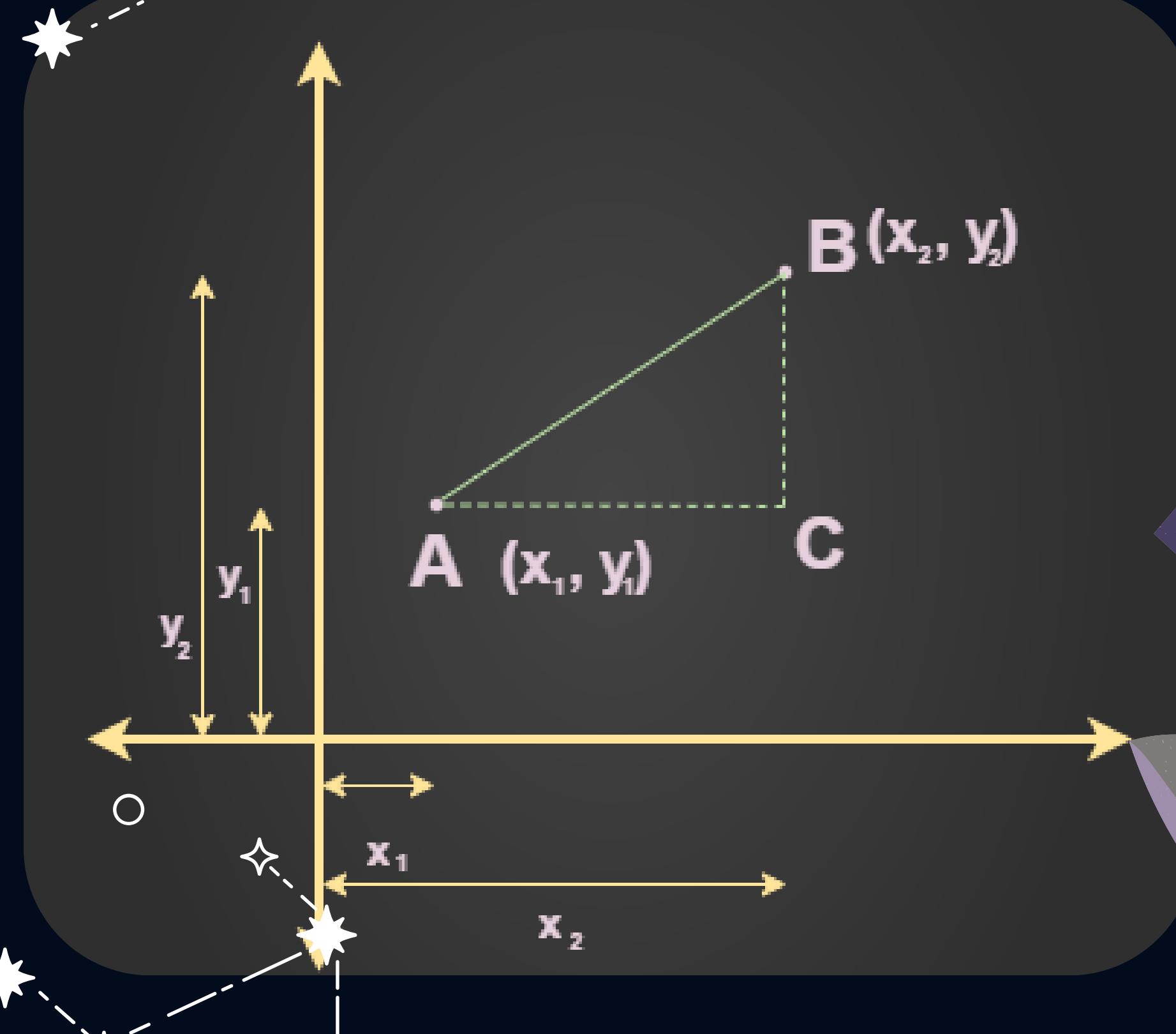
TRIANGULATION



TRILATERATION



THE DISTANCE FORMULA



Satellite knows its position
It measures your distance
Multiple distances → your
exact location



INNOVATION CORNER

- Dual-rotation mechanism
- Realistic space motion
- Visual explainer for GPS maths
- Low-cost, high-clarity STEM model
- Add-on ready (LEDs, sensors)
- Student-built space engineering prototype

THEATER

THE