# CLASSII : PHYSICS

Mathematical Tools

vector

## Mechanics

- Kinematics
- Dynamics
  - NLM
  - Friction
  - Work Power -Energy
  - Circular Motion
  - COM
  - RBD(Rotation)

## Heat & Thermodynamics

- Thermometry
- Thermal Expansion
- Calorimetry
- Heat-Transfer
- KTG
- I hemodynamics

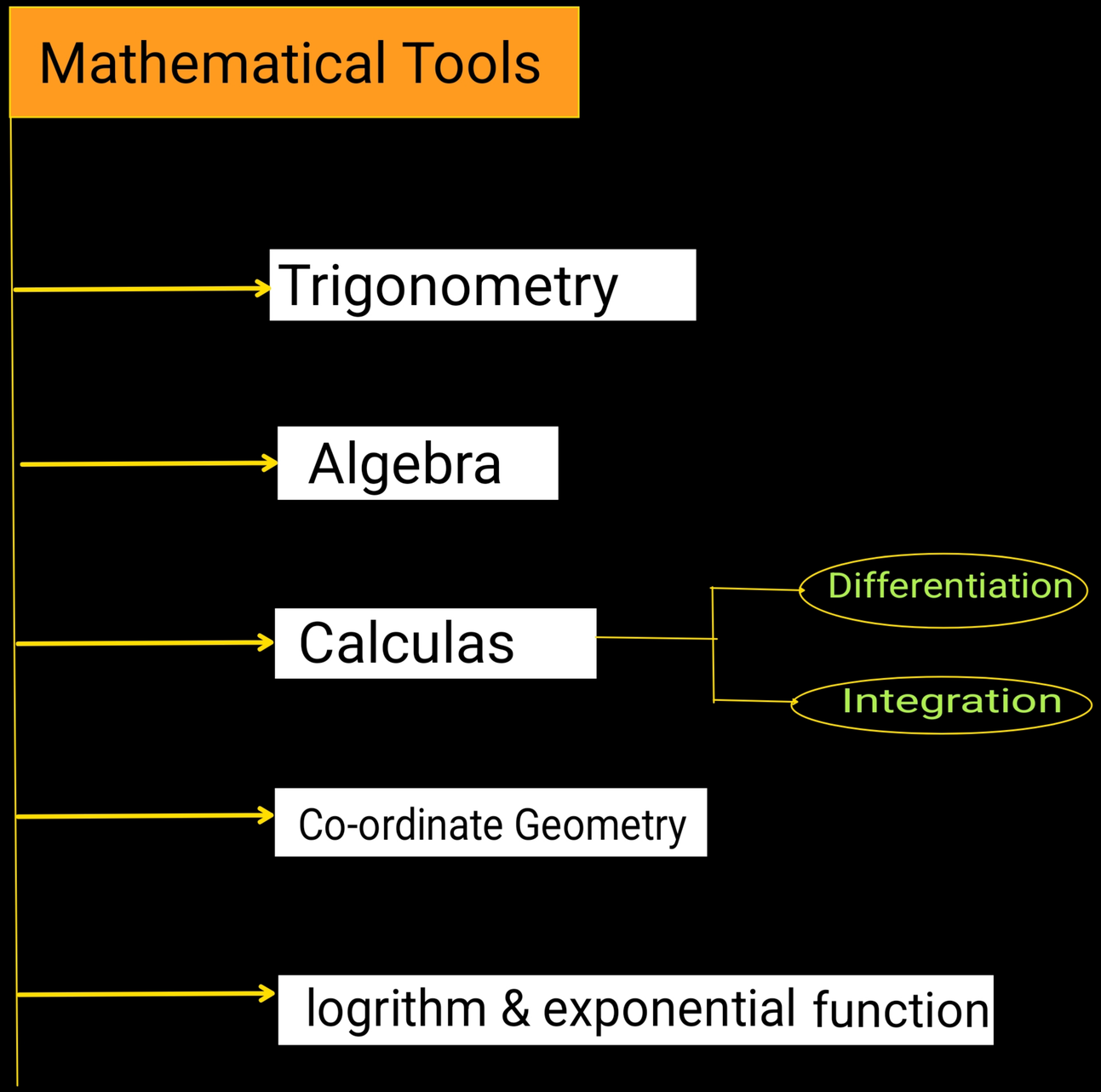
## Fluid Mechanics & it's properties

## SHM & waves

- SHM
- string Waves
- sound waves

SHM

- -

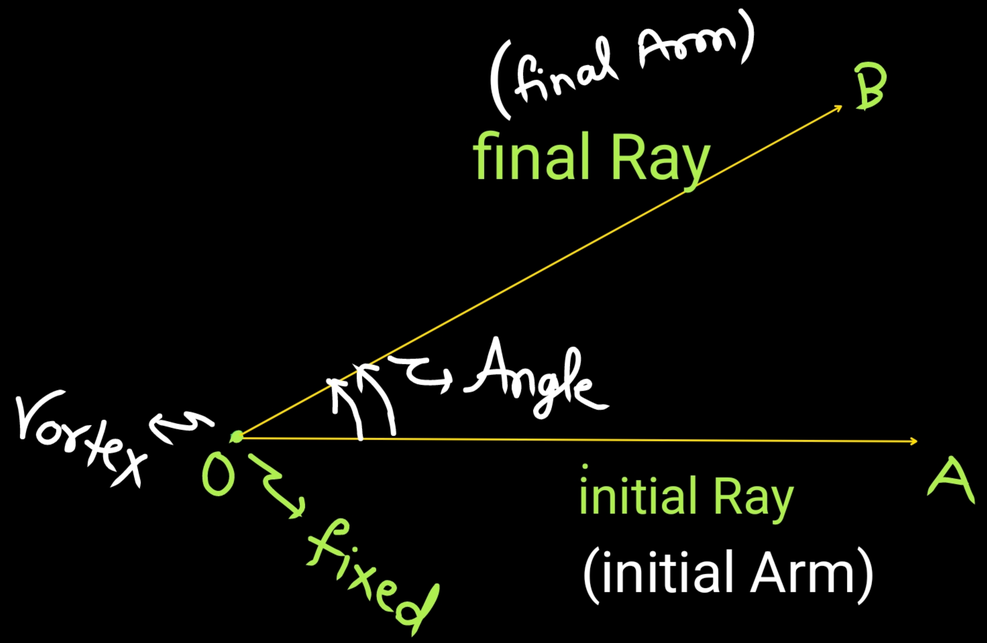

Mathematical Tools
Trigonometry
Algebra
Calculas
Differentiation
Integration
Co-ordinate Geometry
logrithm & exponential function

# TRIGONOMETRY

## Measurement of Angle & sides of Traingle

## Angle:-

Greek word 'Angulus'
↳ corner



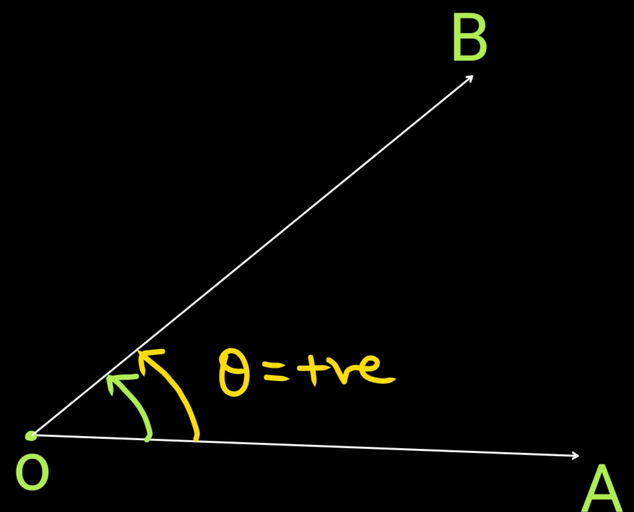

The Amount of Rotation between two Rays along their common fixed point (Vortex) is known as Angle.

## Directed Angle:-

$\angle AOB$
$\angle BOA$

$\angle AOB \neq \angle BOA$

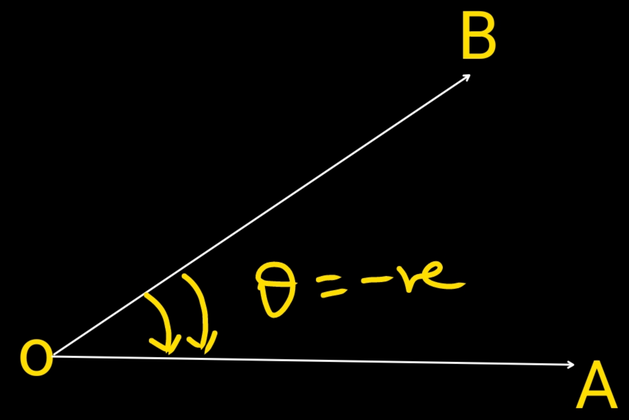
## Positive Angle concept




Anticlockwise Rotation

$\angle AOB = +ve$

## Negative Angle concept



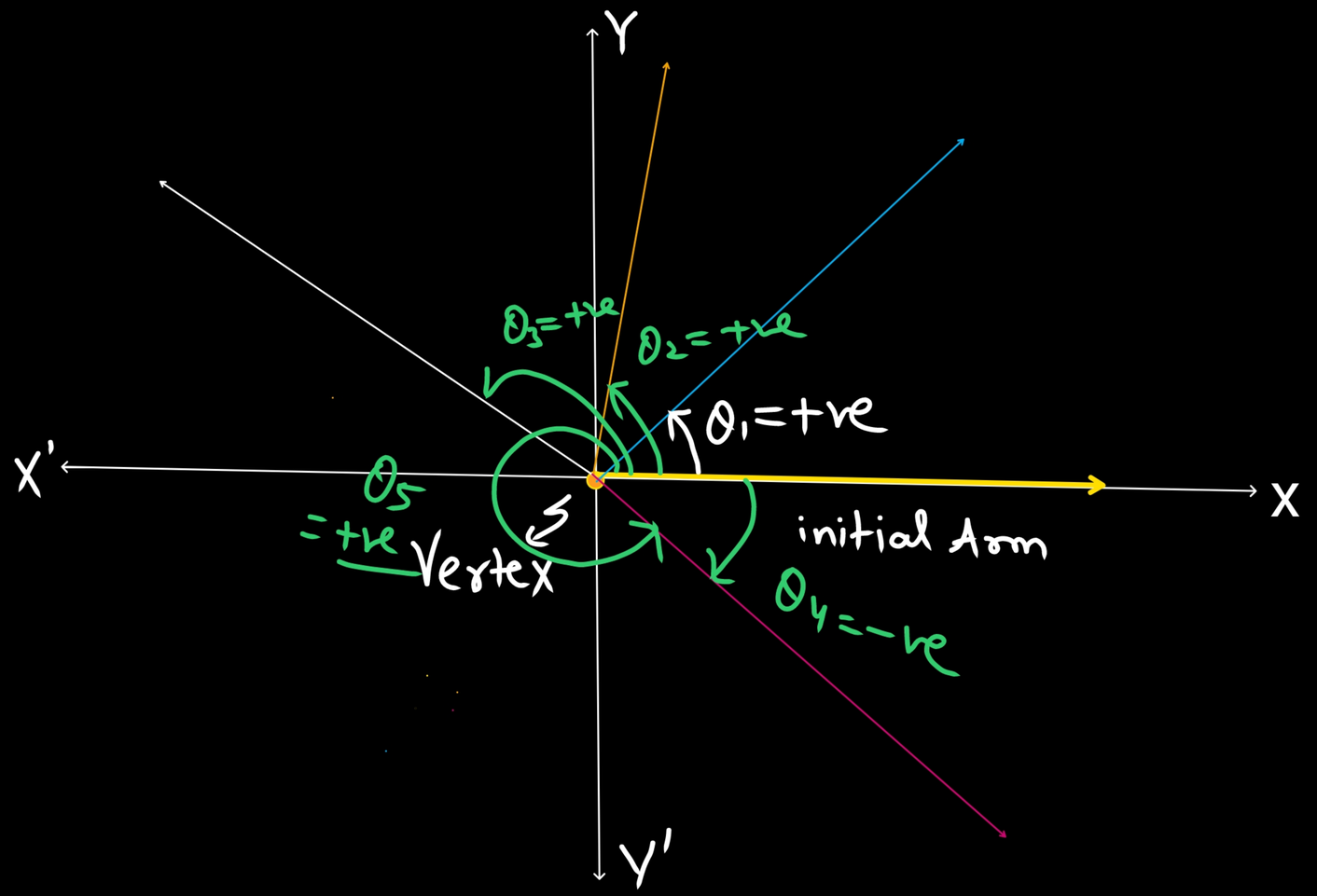

clockwise Rotation

$\angle BOA = -ve$

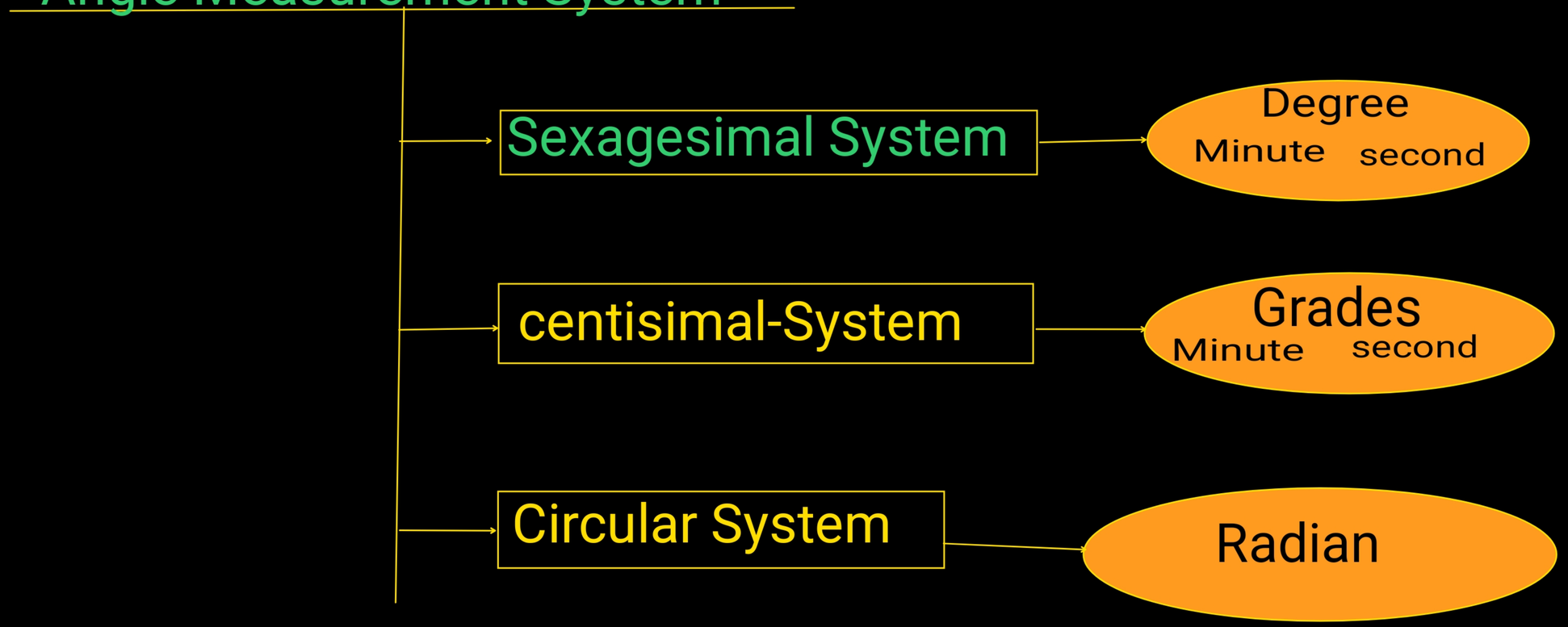
$\angle AOB \neq \angle BOA$

## STANDARD Angle: -

Angle with vertex at Origin & initial Arm is positive X-axis.

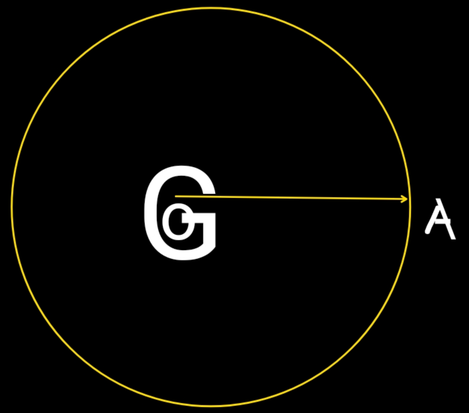


# Angle Measurement System



# Sexagesimal-System

- Base -60 System
- Unit of Angle -Degree, Minute, second



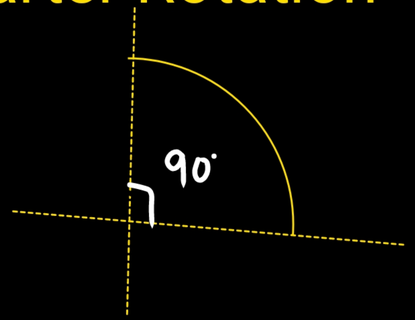

1 complete Rotation=360°

In this system one complete Rotation is divided into 360 equal parts and each part is called 1 Degree.

$$1° = \frac{1}{360\text{ th part of one complete Rotation}}$$

## Half Rotation


## Quarter Rotation



## Minute :-

one Degree is Divided into 60 equal parts and each part is called

1 Minute.-

$$1' = \frac{1}{60 \text{ part of } 1 \text{ Degree}}$$

1 Degree=60 minute

$1^{0} = 60'$

## second:-

$$1'' = \frac{1}{60\text{th of } 1 \text{ minute}}$$

$1' = 60''$