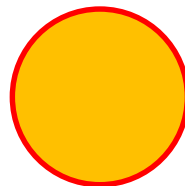




THEME: GEOMETRY AND MEASURES

TOPIC: CIRCLE PROPERTIES – Lesson 3

KAZIBA STEPHEN



7th January 2025

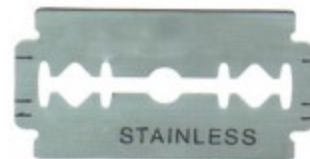
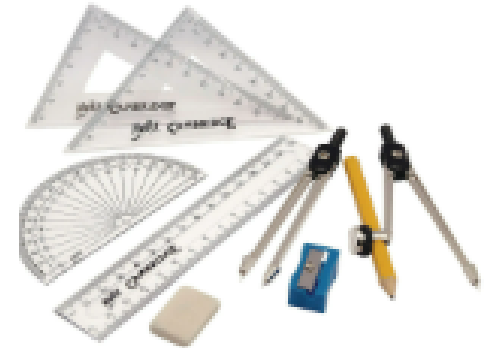
LEARNING OUTCOME

- By the end of this lesson, you should be able to understand and apply the Semi-Circle Theorem

Activity: Exploring the Angle in a Semi-Circle

Materials Needed:

- A piece of plain paper or box cardboard, or a used cake board (Remove the polythene).
- A cup or any object with a circular base for tracing the circle.
- A cutter, razor blade, knife or sharp object to cut the paper (use carefully to avoid injury)
- Mathematical set
- A pencil or pen

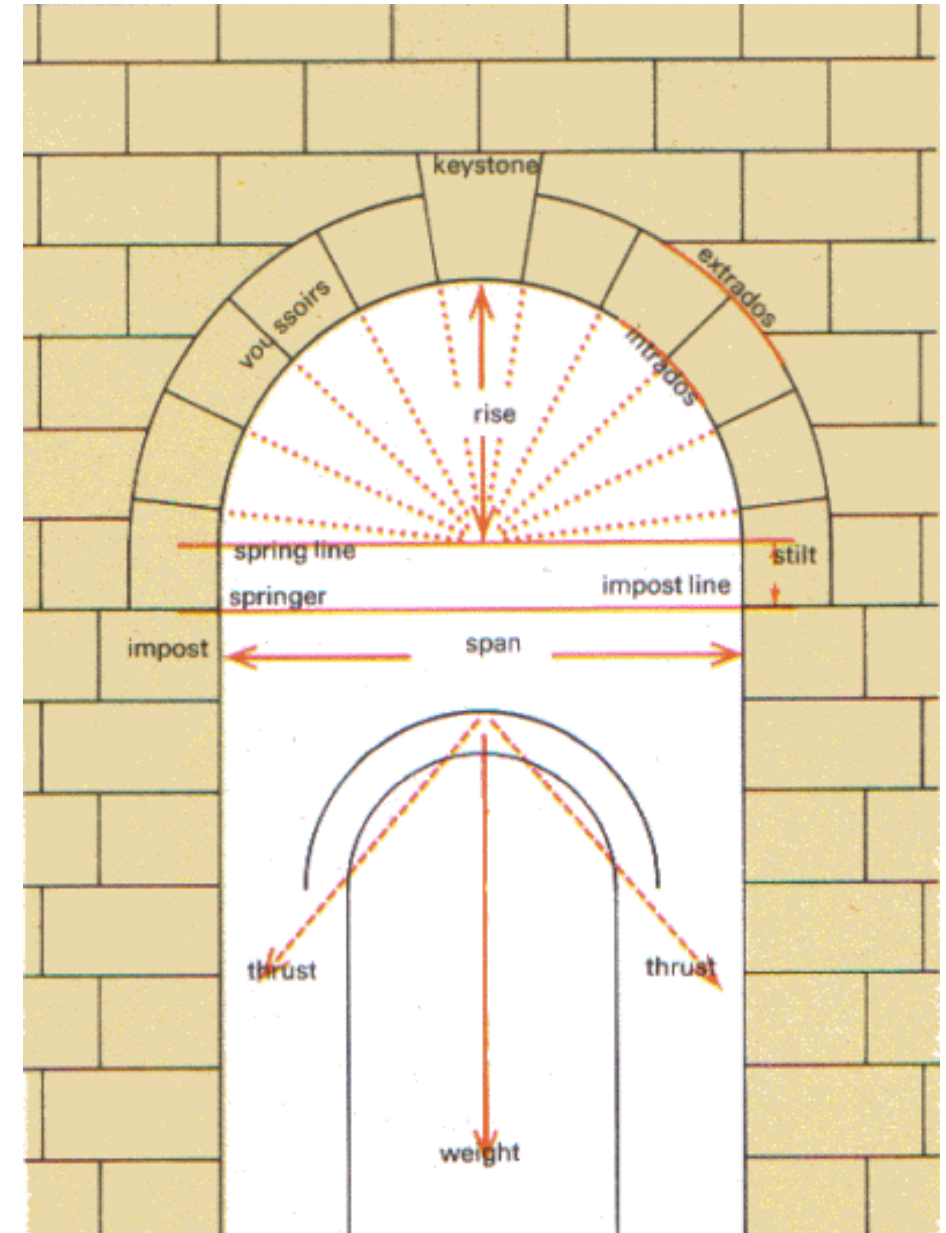


Instructions

1. **Trace the Circle:** Place the cup or circular object on the paper and trace around it to create a circle.
2. **Cut Out the Circle:** Carefully cut along the traced line using a cutter or razor blade or sharp object. Be cautious to avoid cutting yourself.
3. **Fold the Paper:** Fold the paper in half so that the edges meet, forming a semi-circle with the fold as the diameter.
4. **Form a Figure:** You now have a semi-circle with a straight edge (diameter) and a curved edge (circumference).
5. **Draw the First Line:** From one end of the diameter, draw a straight line to any point on the circumference.
6. **Draw the Second Line:** From the other end of the diameter, draw another straight line to meet the first line.
7. **Measure the Angle:** Measure the angle formed between the two lines at the point where they meet at the circumference.
8. How many degrees have you obtained?

Outcome

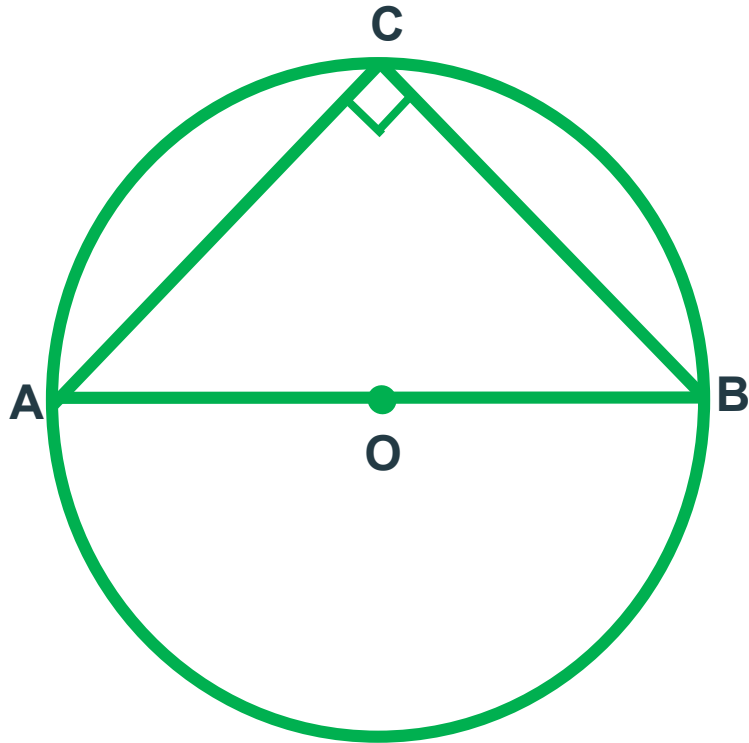
- The figure formed will have a **90°** angle between the two lines. This demonstrates the **Angle in a Semi-Circle Theorem**
- If an angle is formed at the circumference of a circle by a diameter (i.e., the arc is a semi-circle), the angle will always be a **right angle** (90°).





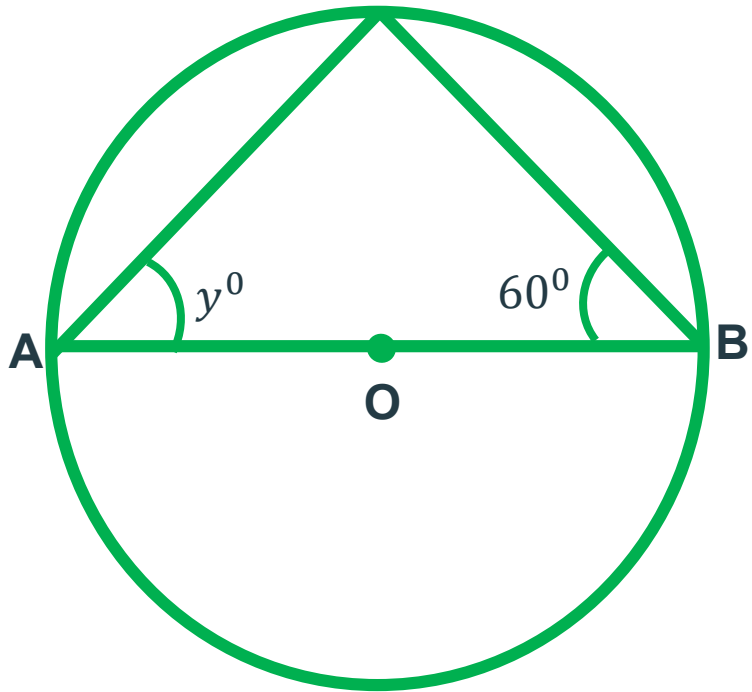
Angle in a semi circle

- **Theorem** : The angle subtended at the circumference by a semi-circle is 90°



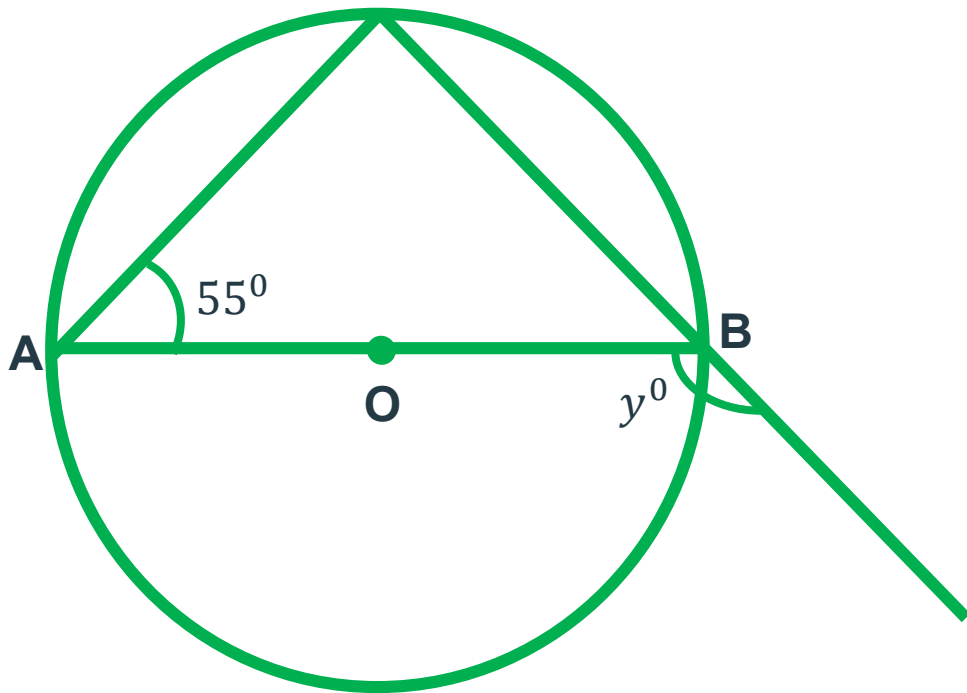
Activity

- In the figure below, **O** is the centre of the circle, Calculate the size of the marked angle y



Activity

- In the figure below, O is the centre of the circle, Calculate the size of the marked angle y



Exercise

In the figure below, O is the centre of the circle, Calculate the size of the marked angle x

