

TOPIC: (i) SUM OF EITHER PAIR OF OPPOSITE ANGLES OF A CYCLIC QUADRILATERAL IS 180° (ii) IN A CYCLIC QUADRILATERAL THE EXTERIOR ANGLE IS EQUAL TO THE INTERIOR OPPOSITE ANGLE

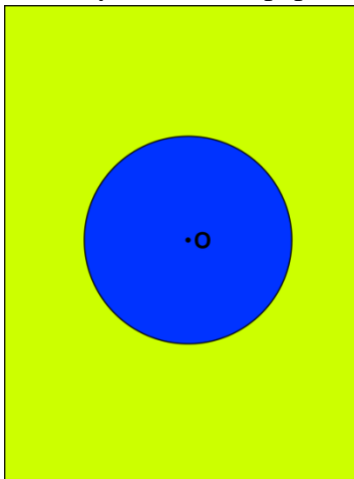
OBJECTIVE: To verify that the (i) sum of either pair of opposite angles of a cyclic quadrilateral is 180° (ii) in a cyclic quadrilateral the exterior angle is equal to the interior opposite angle materials required

MATERIALS REQUIRED:

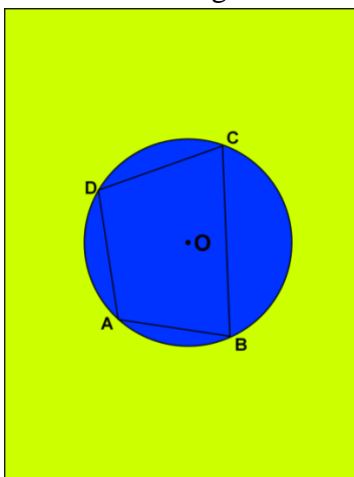
1. Geometry box
2. Practical workbook
3. Coloured chart papers – yellow, blue and pink
4. Scissors
5. Scale
6. Sketch pen
7. Adhesives or glue sticks
8. Tracing papers – 2

PROCEDURE:

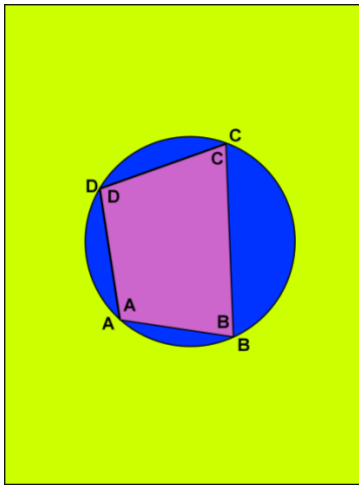
1. Draw a circle of 5 cm radius on a blue coloured chart paper. Use black sketch pen for drawing.
2. Cut out the circle.
3. Take a yellow chart paper. Cut it in the size of an A4 sheet and paste the circle on it.



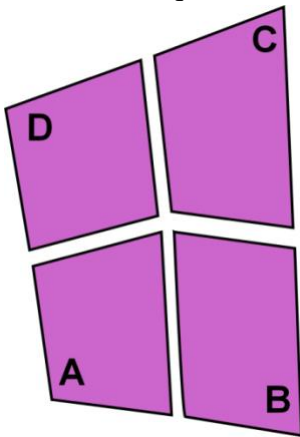
4. By paper folding get the chords AB, BC, CD and DA.
5. Draw the line segments AB, BC, CD and DA. Cyclic quadrilateral ABCD is obtained.



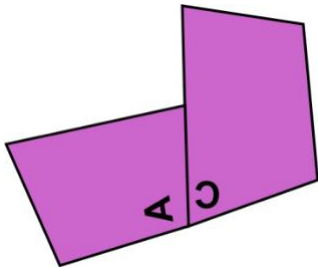
6. Make a replica of cyclic quadrilateral ABCD using a tracing paper. Now draw the quadrilateral on the pink chart paper with the help of tracing paper and cut it out.



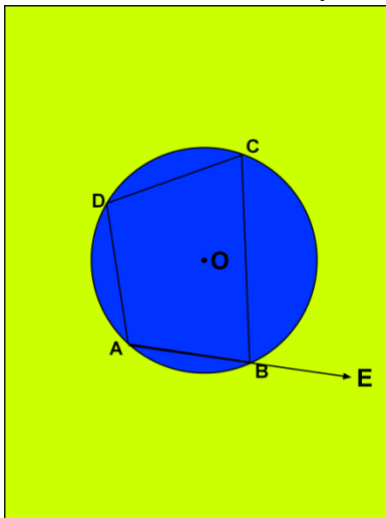
7. Now cut the quadrilateral in 4 parts such that each part contain one angle like $\angle A, \angle B, \angle C, \angle D$.



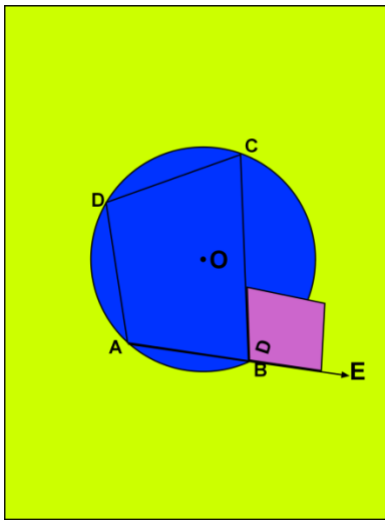
8. Place $\angle A$ and $\angle C$ adjacent to each other.



9. Produce AB to form a ray AE. Exterior $\angle CBE$ is formed.



10. Place the replica of D on $\angle CBE$.



RESULT:

It is noted that when $\angle A$ and $\angle C$ are placed adjacent to each other they form a linear pair: $\angle A + \angle C = 180^\circ$. Also, $\angle D$ completely covers $\angle CBE$. This shows that the exterior angle of a cyclic quadrilateral ABCD is equal to the opposite interior angle.

LAST DATE OF SUBMISSION OF PROJECT: 15th July, 2019