ODM EDUCATIONAL GROUP
Changing your Tomorrow

PERIOD 2

MATHEMATICS

CHAPTER NUMBER :~ 6
CHAPTER NAME :~ LINES AND ANGLES

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Previous Knowledge Test

Define the following terms

1.Ray

2.Angle

3.Supplementary angle

4.Adjacent angle

5.Linear pair of angles

LEARNING OUTCOME:~

1. Students will get to know about vertically opposite angles.

2. Students will be able to prove the theorem by logical reasoning.

Theorem 6.1

If two lines intersect each other then the vertically opposite angles are equal.

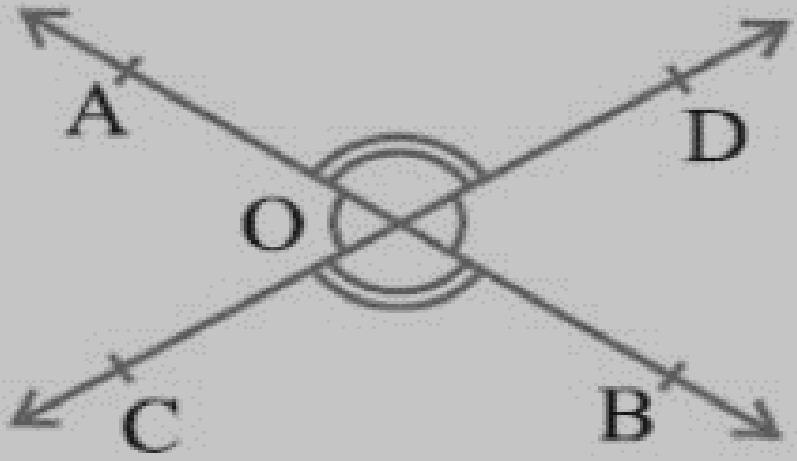

Fig. 6.8 : **Vertically opposite angles**

Given :~ two lines intersect each other

To prove :~ $\angle AOC = \angle BOD$ and $\angle AOD = \angle BOC$

Proof :- AB and CD be two lines intersecting at O .

They lead to two pairs of

vertically opposite angles,

namely, (i) $\angle AOC$ and $\angle BOD$

(ii) $\angle AOD$ and $\angle BOC$

We need to prove that $\angle AOC = \angle BOD$

and $\angle AOD = \angle BOC$

Now, ray OA stands on line CD

From (Linear pair axiom)

$\angle AOC + \angle AOD = 180^\circ \quad \ldots (1)$

$\angle AOD + \angle BOD = 180^\circ \quad \ldots (2)$

From (1) and (2), we can write

$\angle AOC + \angle AOD = \angle AOD + \angle BOD$

This implies that $\angle AOC = \angle BOD$

Similarly, it can be proved that $\angle AOD = \angle BOC$

Evaluation:-

1.Explain vertically opposite angle.

2.What is the sum of the angles produced in the point of intersection of two lines?

Solution

1.If two lines intersect each other at a point then the opposite angles are vertically opposite angles.

2.360 degree.

HOMEWORK ASSIGNMENT

EXERCISE 6.1 Q No 5 and 6

AHA:~

1.What is linear pair axiom?

2.What do you mean by allied angles?

THANKING YOU

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