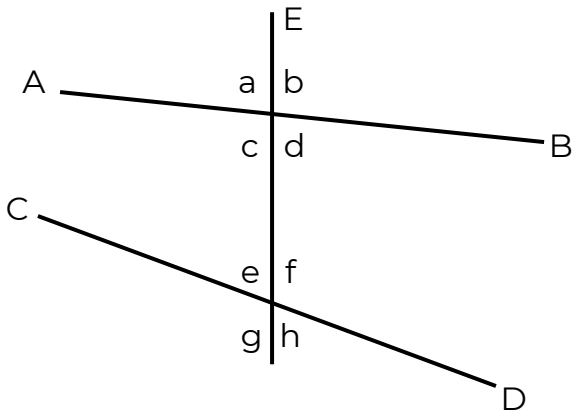
Grade 9 - March 2nd Week

Alternative Angles, Corresponding Angles and Allied Angles

Study the pages of 103, 104 and 105 of Your mathematics text book and then you can identify **alternative angles**, **corresponding angles** and **allied angles** well.

Ex: - According to the figure given below answer the questions.



1) Name the transversal line.
2) Name the two straight lines intersect by the transversal line.
3) Name four corresponding angle pairs of the figure using letters.
4) Name two alternate angle pairs using letters.
5) Name two allied angle pairs using letters.

Answers

1) EF
2) AB and CD
3) A and e, b and f, c and g and d and h are the corresponding angle pairs.
4) C and f, d and e and e are the alternate angle pairs.
5) C and e, d and f are the allied angle pairs.

- Do the activity one.

Angle related to parallel lines.

- Do the activity 1

In doing the above activity you would have observed them, when

1) a pair of corresponding angles are equal or
2) a pair of alternate angles are equal or
3) The sum of a pair of allied angle is equal to 180°

Then the straight lines AB and RC are parallel.

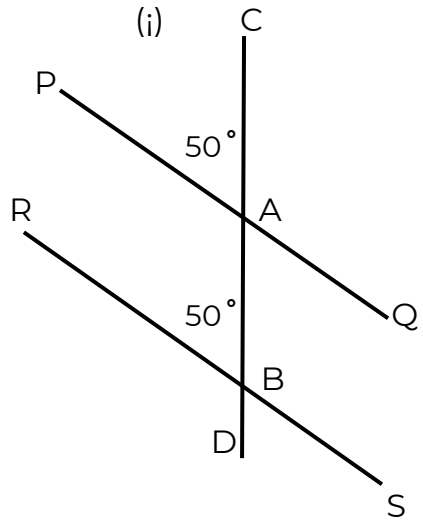
Theorem

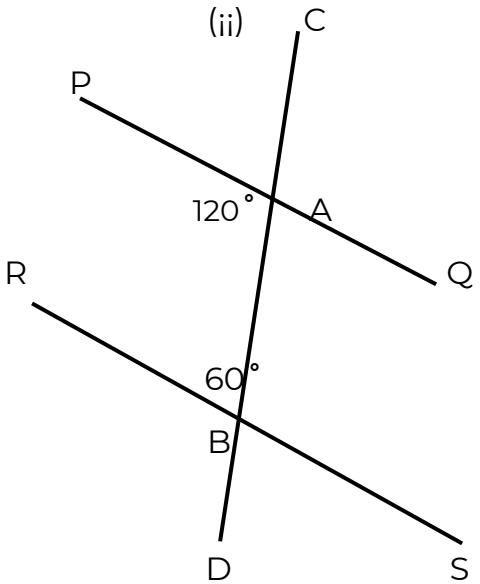
When two straight lines are intersected by a transversal, if

1) A pair of corresponding angles are equal or
2) A pair of alternate angles are equal or
3) The sum of a pair of allied angle is equal to 180°

Then two straight lines are parallel to each other.

Ex: - According to the details given in each figure show that PQ and RS parallel to each other.





Answers

(¡) CÂP = AB̂R (a pair of corresponding angles are equal)

∴ PQ // RS

(¡¡) PÂB + AB̂R = 180˚ (the sum of pair of angles equal to 180˚)

120˚ + 60˚ = 180˚

∴ PQ // RS

- Do the activity 2

According to above activity who two parallel lines are intersected by transversal,

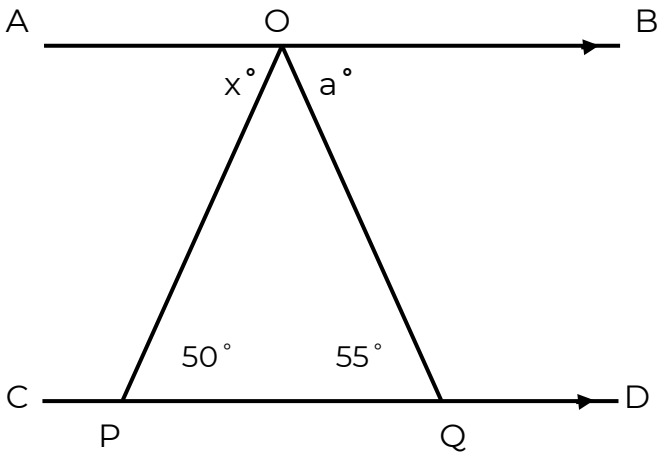
i) Each pair of corresponding angles are equal.
ii) Each pair of alternate angles are equal.
iii) Each pair of allied angles are supplementary.

Theorem

When a transversal intersects a pair of parallel lines.

i) The corresponding angles formed are equal.
ii) The alternate angles formed are equal.
iii) The sum of each pair of allied angles formed equal two right angles.

Ex: - Find the value of angles represented by x˚ and a˚



Answers

BÔQ= PQ̂O (alternate angles)

$a^\circ = 55^\circ$

AÔP = OP̂Q (alternate angles)

$x^\circ = 50^\circ$

- Do the exercise 8.2 and miscellaneous exercise.