Date
Page

Exercise 5.1

Write Which of the following statements are true and which are false? Give reasons for your answers.

Only one line can pass through a single point. False

There are an infinite number of lines which pass through two distinct points. False

A ~~terminal~~ terminated line can be produced indefinitely on both the sides. True

If two circles are equal, then their radii are equal. True

In Fig. 5.9, if $AB = PQ$ and $PQ = XY$, then $AB = XY$. True

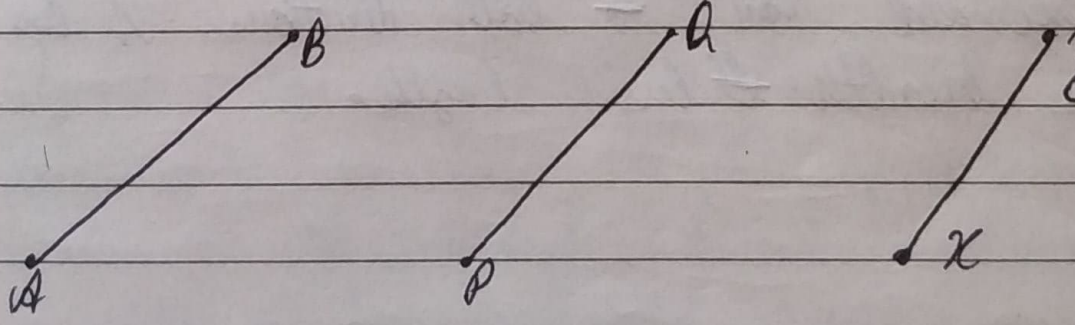


Fig. 5.9

2) Give a defination for each of the following terms. are there other terms that need to be defined first? What are they; and how might you define them?

ans) Yes, there are other terms which need to be defined first, they are:

Plane:- That surfaces in which geometric figures can be drawn are known as plane. A place surface is a surface which lies evenly with the straight lines on itself.

Point:- A dimensionless dot which is drawn on a plane surface is known as point. A point ~~which~~ is that which has no part.

Line:- A collation of points that has only length and no breadth is known as a line. And it ~~can~~ can be extended on ~~to~~ both directions. A line is breadth ~~-~~ less length.

i- Parallel lines :- Parallel lines are those lines which never intersect each other and always at a constant distance perpendicular to each other. Parallel lines can be two or more lines.

ii- Perpendicular lines :- Perpendicular lines are those lines which are said to be perpendicular to each other i.e., at an angle of 90°.

iii- Line Segment :- When a line cannot be extended any further because of its two ends points then the line is known as a line segment. A line segment has 2 points.

iv- Radius of circle :- A radius of a circle is the line from any point on the circumference of the circle to the center of the circle.

v- Square :- A quadrilateral in which all the four sides are said to be equal and each of its ~~internal~~ internal angles is right angles is called square.

Date
Page

Exercise 5.2

How would you ~~rewrite~~ rewrite Euclid's fifth postulate so that it would be easier to understand?

Euclid's fifth postulate: If a straight line falling on two straight lines makes the interior angles on the same side of it taken together less than two right angles, then the two straight lines, if produced indefinitely, meet on that side on which the sum of angles is less than two right angles.

i.e., the Euclid's fifth postulate is about parallel lines.

Parallel lines are the lines which do not intersect each other ever and are always at a constant perpendicular distance apart from each other.

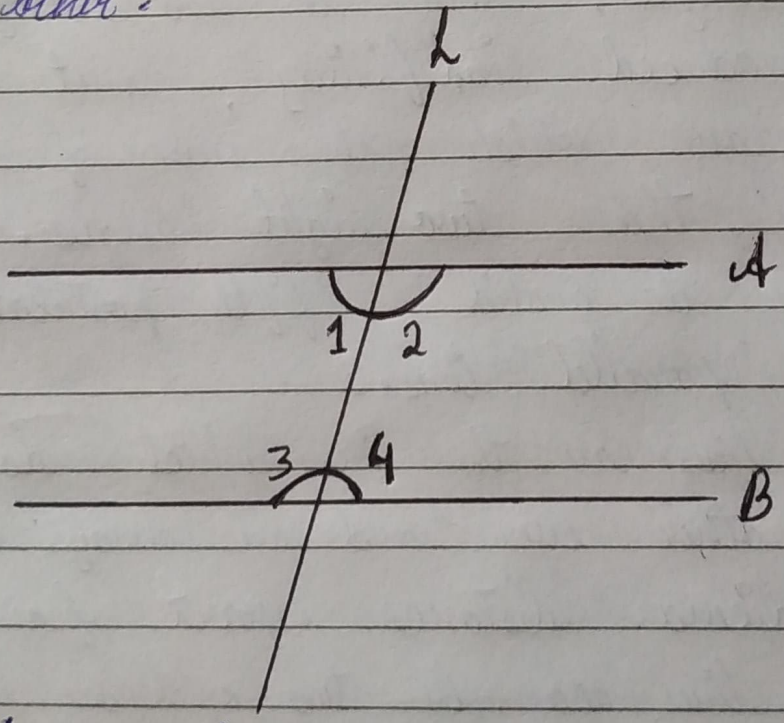
Parallel lines can be two or more lines.

A: If X does not lie on the line A then we can draw a line through X which will be parallel to that of the line A.

B: There can be only one line that can be drawn through the point X which is parallel to the line A.

2) Does Euclid's fifth postulate imply the existence of parallel lines? Explain.

ans) Yes, Euclid's fifth postulate does imply the existence of the parallel lines. If the ~~sum~~ sum of the interior angles is equal to the sum of the right angles, then the two ~~lines~~ lines will not meet each other at any given point, hence making them ~~parallel~~ parallel to each other.



$\angle 1 + \angle 3 = 180^\circ$

Or $\angle 3 + \angle 4 = 180^\circ$