

NCERT Solutions for Class 9 Maths Chapter 5 Introduction to Euclid Geometry Ex 5.2

Question 1.

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

Solution.

The fifth postulate is about parallel lines.

When two or more lines never intersect each other in a plane and perpendicular distance between them is always constant then they are said to be parallel lines.

The two facts of the postulates are:

- (i) If P doesn't lie on l then we can draw a line through P which will be parallel to the line l.
- (ii) There will be only one line can be drawn through P which is parallel to the line l.

Question 2.

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

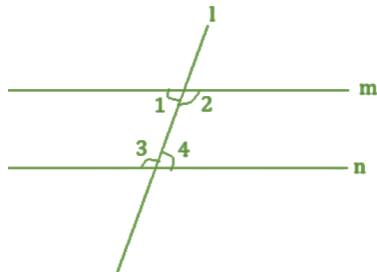
Solution.

Yes, Euclid's imply the existence of parallel lines.

If the sum of the interior angles will be equal to the sum of the two right angles

Then,

The two lines will not meet each other on either sides and therefore they will be parallel to each other.



For example,

m and n will be parallel if

$$\text{Angle } 1 + \text{Angle } 3 = 180^\circ$$

Or

$$\text{Angle } 3 + \text{Angle } 4 = 180^\circ$$