

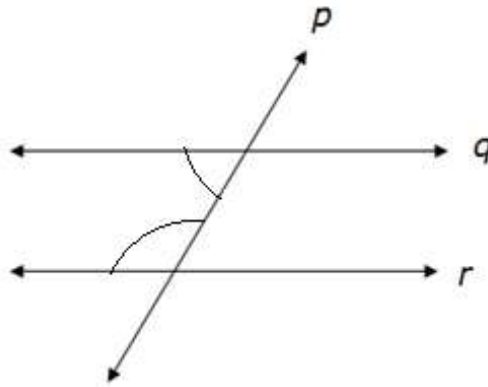
NCERT Mathematics Solutions by Dev Anoop (Bathinda). Ex 5.2, Chapter 5

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

For every line l and for every point P not lying on l , there exists a unique line m passing through P and parallel to l .

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

Yes.



If a straight line p falls on two straight lines q and r such that sum of the interior angles on one side of p is two right angles, then by Euclid's fifth postulate the line will not meet on this side of p .

The sum of the interior angles on the other side of line p will also be two right angles ($360^\circ - 180^\circ = 180^\circ$). Therefore, they will not meet on the other side also.

So, the lines q and r never meet and are therefore parallel.