



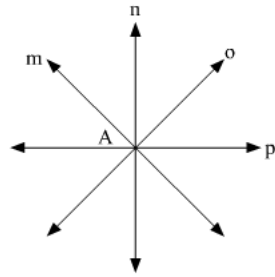
Introduction to Euclids geometry Ex 7.1 Q2

Answer :

(i) Let us take a point A .

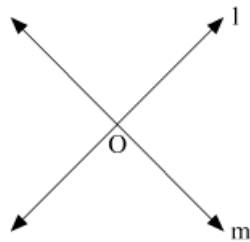
\bullet
 A

If we try to draw lines passing through this point A , we can see that we can draw many lines.



Therefore, infinite number of lines can pass through a given point.

(ii) Let us take two lines l and m , and intersect them.



As, we can see here the two lines have only one point in common that is O .

Therefore, there is only one point where two distinct lines can intersect.

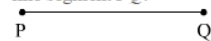
Introduction to Euclids geometry Ex 7.1 Q3

Answer :

(i) In this problem we are given two points P and Q .

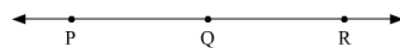
\bullet P \bullet Q

If we try to join these two points through a line segment, we can see that there can be only one such line segment PQ .



Therefore, given two points, only **one line segment** is determined by them.

(ii) In the given problem, we are given three collinear points P , Q and R . Collinear points lie on the same line, so they can be represented as



So, the various line segments determined here are PQ , QR and PR .

Introduction to Euclids geometry Ex 7.1 Q4

Answer :

(i) False

The given statement is false, as it is not necessary that the two lines always intersect. In the case of parallel lines, the two lines never intersect or there is no common point between them.

(ii) False

The given statement is false, as there is only one point common between two intersecting lines. So, two lines cannot intersect at two points.

(iii) False

A line segment is a part of line defined by two end points, so it is always of a definite length. Hence, the given statement is false.

(iv) True

The given statement is true as a unique line can be determined by minimum of two distinct points.

(v) False

A ray is defined as a part of the line with one end point, where the other end can be stretched indefinitely. Therefore, a ray cannot have a finite length.

(vi) True

The given statement is true as a ray is defined as a part of the line with one end point, where the other end can be stretched indefinitely.

(vii) False

A line segment is a part of line defined by two end points. So the given statement is false as a line segment has two end points.

(viii) False

While denoting a ray, the first letter denotes the end point and the second one denotes the end which can be extended. So, for ray AB , A is the end point and B is the end which can be stretched while for ray BA , B is the end point and A the end which can be stretched. Therefore, ray AB is not the same as ray BA .

(ix) False

The given statement is false as infinite number of lines can pass through a given point.

(x) False

Two lines are said to be coincident if they lie exactly on top of each other, which means that they have all the points in common. So the given statement is false.

***** END *****