

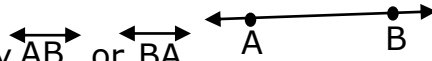
Example

A geometric figure with no length and width is a point. The point is denoted by a capital letter and read as "point P".



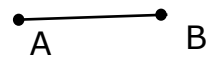
A line passes through two points A and B and extends beyond them forever in both directions.

A line through points A and B is denoted by \overleftrightarrow{AB} or \overleftrightarrow{BA} .



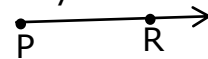
A line segment starts at a point A and ends at point B.

The line segment is denoted by \overline{AB} or \overline{BA} .



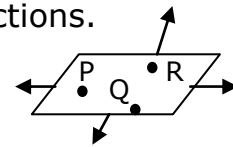
A ray starts from a fixed point and extends forever in one direction only.

The ray with endpoint P and a point on the ray R is denoted by \overrightarrow{PR} .



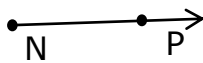
A plane is a flat surface that can extend forever in all directions.

The plane is denoted by $\square PQR$.

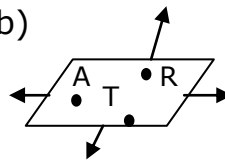
**Exercise**

1. Write the name of and notate each of the following using symbols.

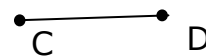
a)



b)



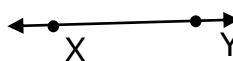
c)



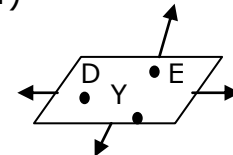
d)



e)



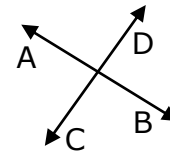
f)



2. What is difference between a ray and a line segment?

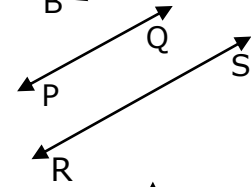
Example

A pair of lines is intersecting lines, if they meet each other. Here line AB and line CD intersect at a common point.

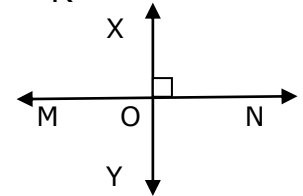


A pair of lines is parallel lines, if they do not intersect. Line PQ and Line RS are parallel.

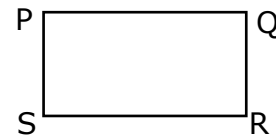
i.e. $\overleftrightarrow{PQ} \parallel \overleftrightarrow{RS}$



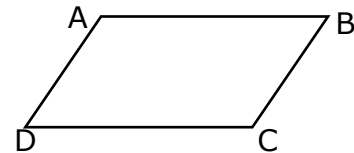
A pair of intersecting lines are said to be perpendicular lines if the angle between them is a right angle. Here Line MN and line XY are perpendicular. i.e. $\overleftrightarrow{MN} \perp \overleftrightarrow{XY}$ because $m\angle XON = 90^\circ$



In this rectangle $PQ \perp QR$ because $m\angle PQR = 90^\circ$ and all angles are right angles. PQ and SR are parallel to each other. Also, $PS \perp SR$ and $PS \parallel QR$



In parallelogram ABCD, $AB \parallel CD$ and $AD \parallel BC$.



Exercise

1. Identify the following pairs of lines as perpendicular, parallel, or intersecting only.

