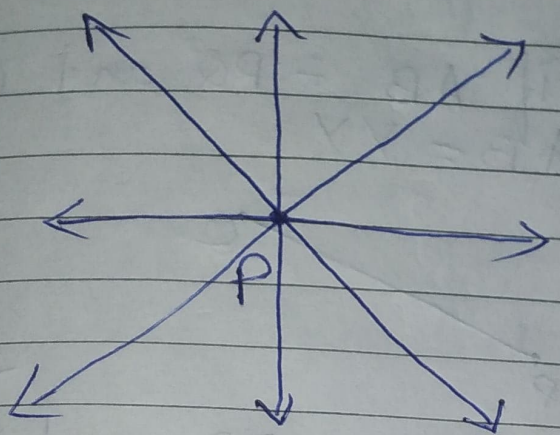
11/5/21

EXERCISE 5.1

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

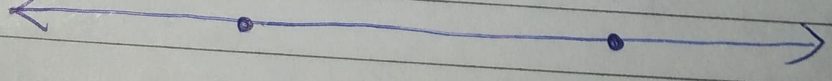
i) Only one line can pass through a single point.

⇒ False, Infinite number of lines can pass through a single point as shown in following figure.



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

⇒ False, Only one line can pass through two distinct point P and Q



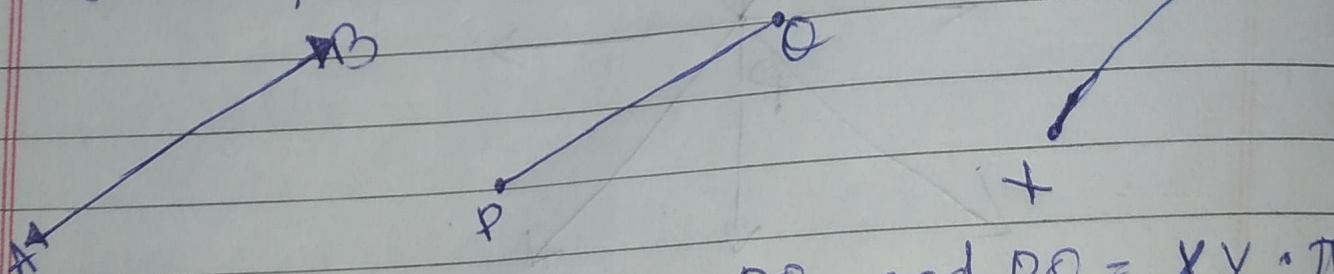
iii) A terminated line can be produced indefinitely on both the sides.

⇒ True. A terminated line can be produced indefinitely on both the sides to give a line.

iv) If two circles are equal, then their radii are equal.

⇒ True. If two circles are equal, then regions bounded by one circle can be superimposed on the other. This means that their centres and circumstances lies over one another. Hence, their radii are equal.

v) In Fig. 5.9, if AB = PQ and PQ = XY, then AB = XY



⇒ True. Given : AB = PQ and PQ = XY. Then from the Euclid's first axiom which state that "Things which are equal to same thing are equal to one another", we conclude AB = XY.