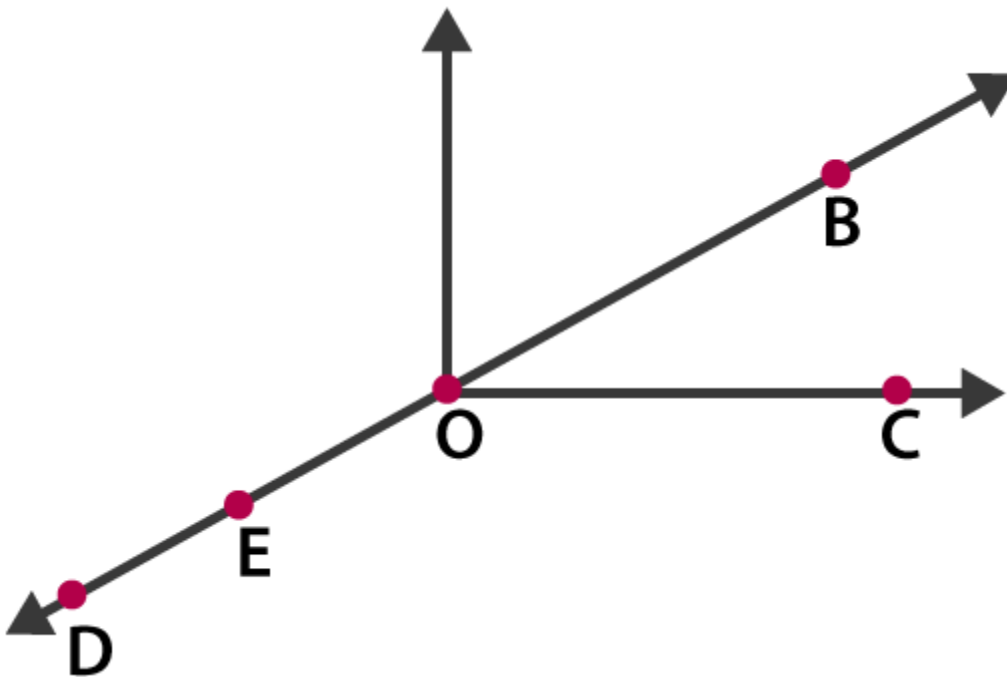


EXERCISE 4.1

PAGE NO: 74

1. Use the figure to name:

- (a) Five points
- (b) A line
- (c) Four rays
- (d) Five line segments



Solutions:

(a) The five points are D, E, O, B and C

(b) A line is \overleftrightarrow{BD}

(c) Four rays are \overrightarrow{OD} , \overrightarrow{OB} , \overrightarrow{OC} and \overrightarrow{OE} .

(d) Five line segments are \overline{DE} , \overline{EO} , \overline{OB} , \overline{OC} and \overline{BE}

2. Name the line given in all possible (twelve) ways, choosing only two letters at a time from the four given.

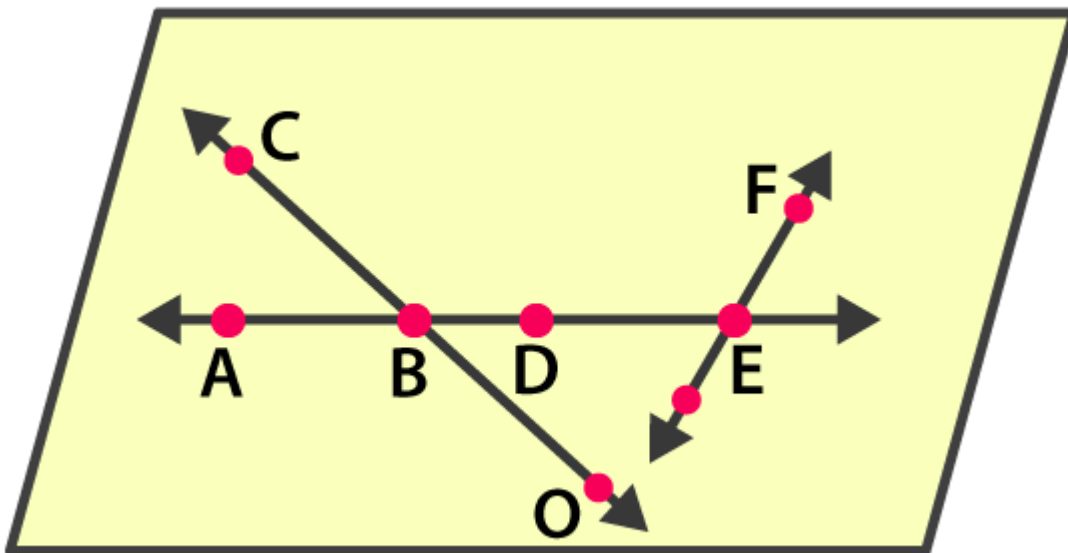


Solutions:

The lines are \overleftrightarrow{AB} , \overleftrightarrow{AC} , \overleftrightarrow{AD} , \overleftrightarrow{BA} , \overleftrightarrow{BC} , \overleftrightarrow{BD} , \overleftrightarrow{CA} , \overleftrightarrow{CB} , \overleftrightarrow{CD} , \overleftrightarrow{DA} , \overleftrightarrow{DB} , \overleftrightarrow{DC}

3. Use the figure to name:

- (a) Line containing point E.
- (b) Line passing through A.
- (c) Line on which O lies
- (d) Two pairs of intersecting lines.



Solutions:

- (a) Line containing point E is \overleftrightarrow{AE}
- (b) Line passing through A is \overleftrightarrow{AE}

(c) Line on which O lies is \overleftrightarrow{OC}

(d) Two pairs of intersecting lines are \overleftrightarrow{CO} , \overleftrightarrow{AE} and \overleftrightarrow{AE} , \overleftrightarrow{EF}

4. How many lines can pass through (a) one given point? (b) two given points?

Solutions:

(a) Countless lines can pass through a given point.

(b) Only one line can pass through two given points.

5. Draw a rough figure and label suitably in each of the following cases:

(a) Point P lies on \overline{AB} .

(b) \overleftrightarrow{XY} and \overleftrightarrow{PQ} intersect at M.

(c) Line l contains E and F but not D.

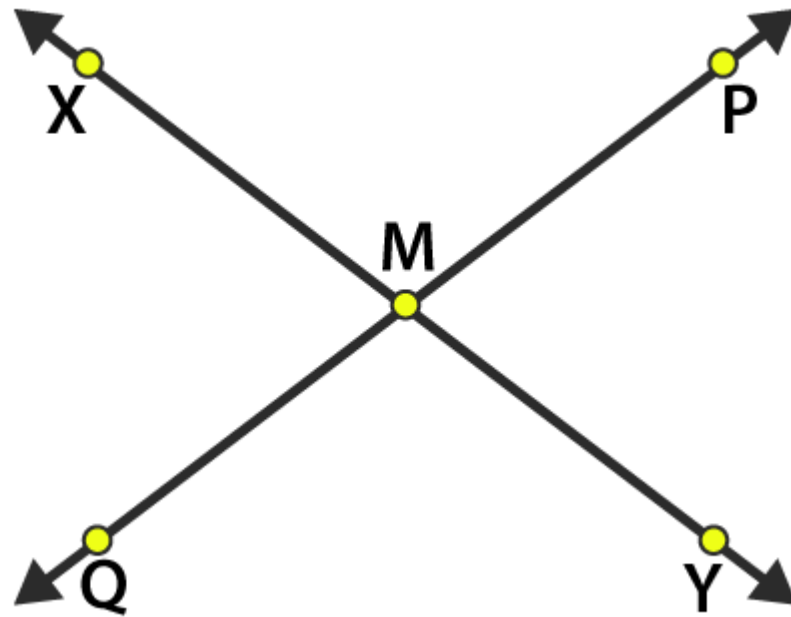
(d) \overleftrightarrow{OP} and \overleftrightarrow{OQ} meet at O.

Solutions:

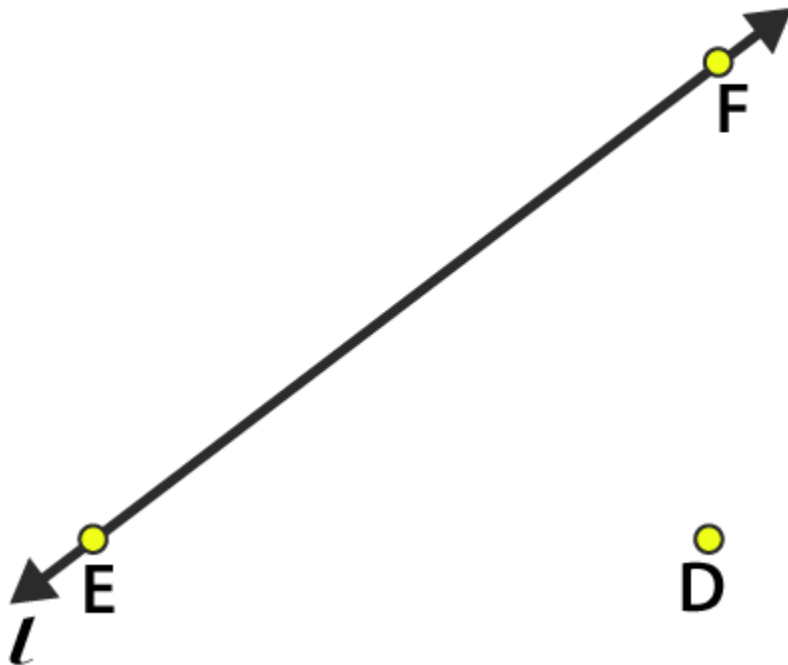
(a)



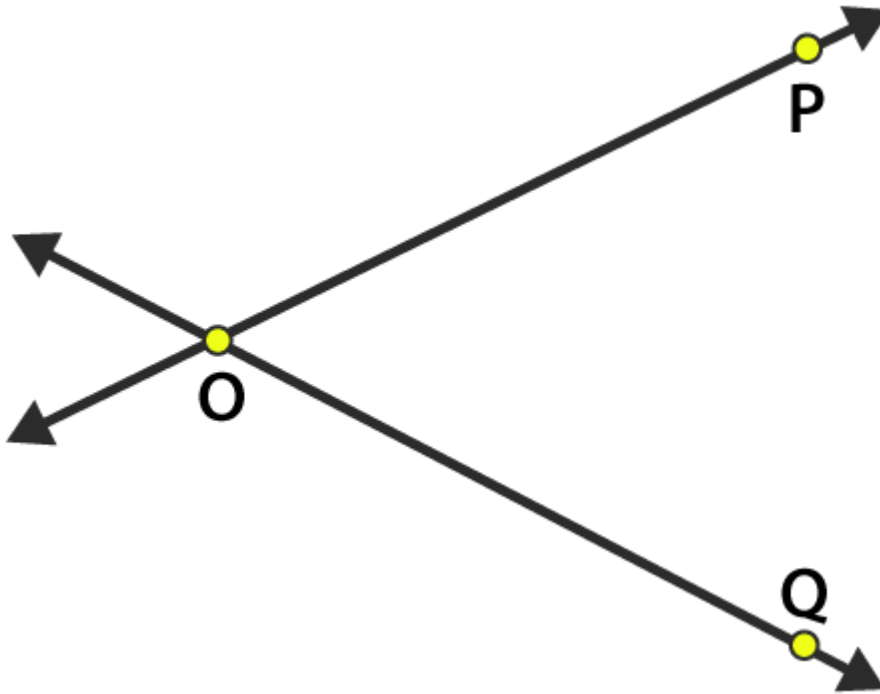
(b)



(c)



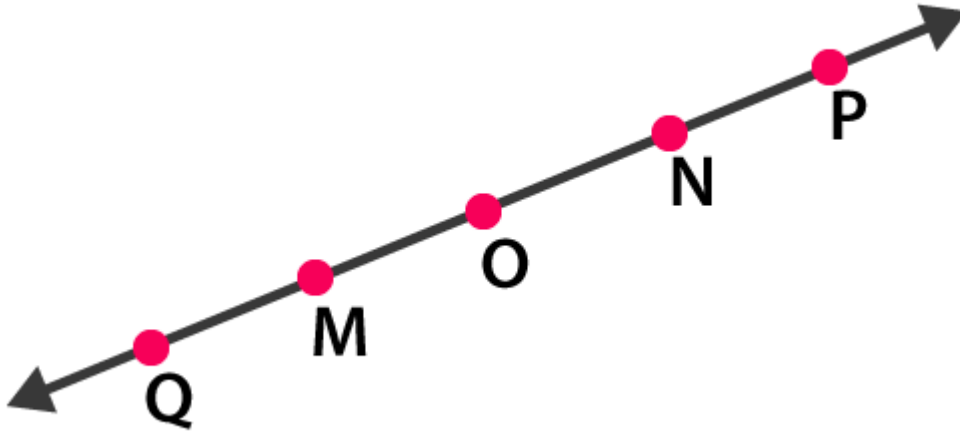
(d)



6. Consider the following figure of line \overleftrightarrow{MN} . Say whether following statements are true or false in context of the given figure.

- (a) Q, M, O, N, P are points on the line \overleftrightarrow{MN} .
- (b) M, O, N are points on a line segment \overline{MN} .
- (c) M and N are end points of line segment \overline{MN} .
- (d) O and N are end points of line segment \overline{OP} .
- (e) M is one of the end points of line segment \overline{QO} .
- (f) M is point on ray \overrightarrow{OP} .
- (g) Ray \overrightarrow{OP} is different from ray \overrightarrow{QP} .
- (h) Ray \overrightarrow{OP} is same as ray \overrightarrow{OM} .
- (i) Ray \overrightarrow{OM} is not opposite to ray \overrightarrow{OP} .
- (j) O is not an initial point of \overrightarrow{OP} .

(k) N is the initial point of \overrightarrow{NP} and \overrightarrow{NM} .



Solutions:

- (a) True
- (b) True
- (c) True
- (d) False
- (e) False
- (f) False
- (g) True
- (h) False
- (i) False
- (j) False
- (k) True