1. Use the figure to name:

(a) Five points

(b) A line

(c) Four rays

(d) Five line segments
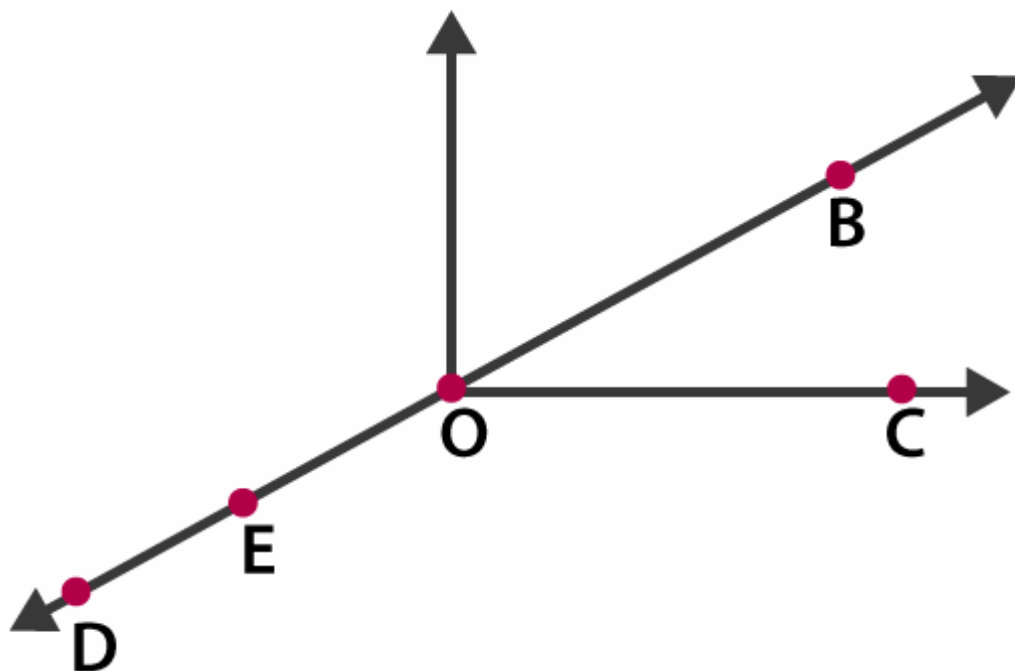
Solutions:

(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.
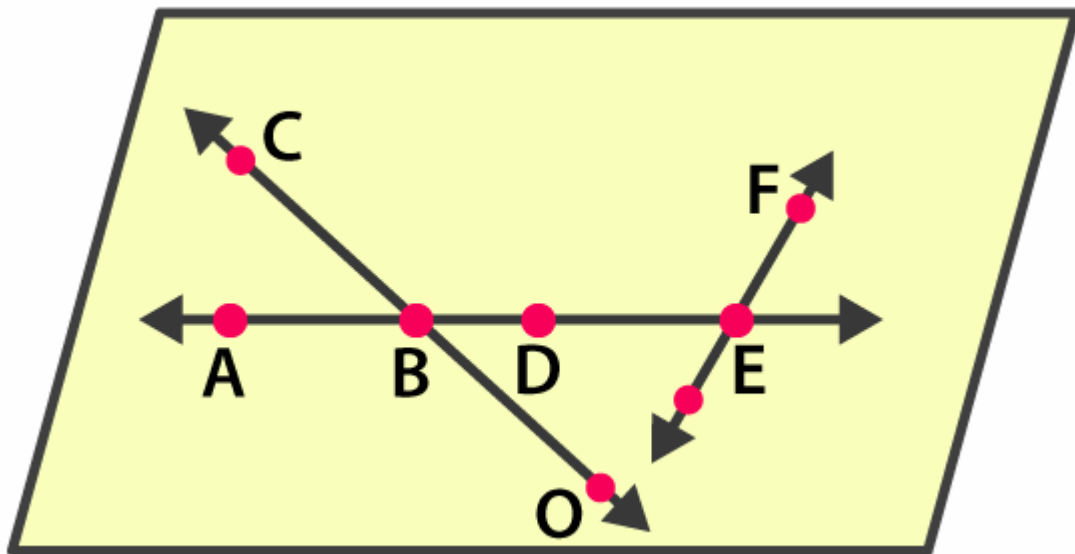

Solutions:

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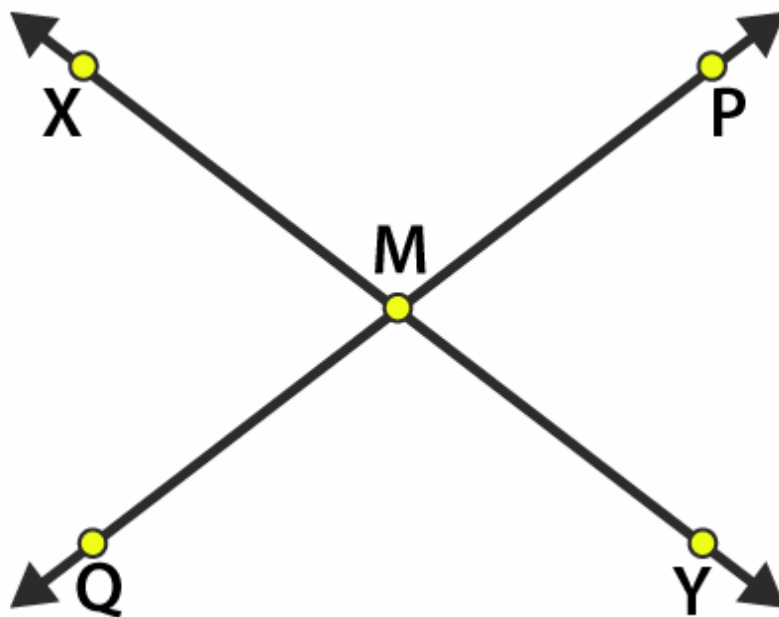
(c) Line l contains E and F but not D.

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

Solutions:

(a)

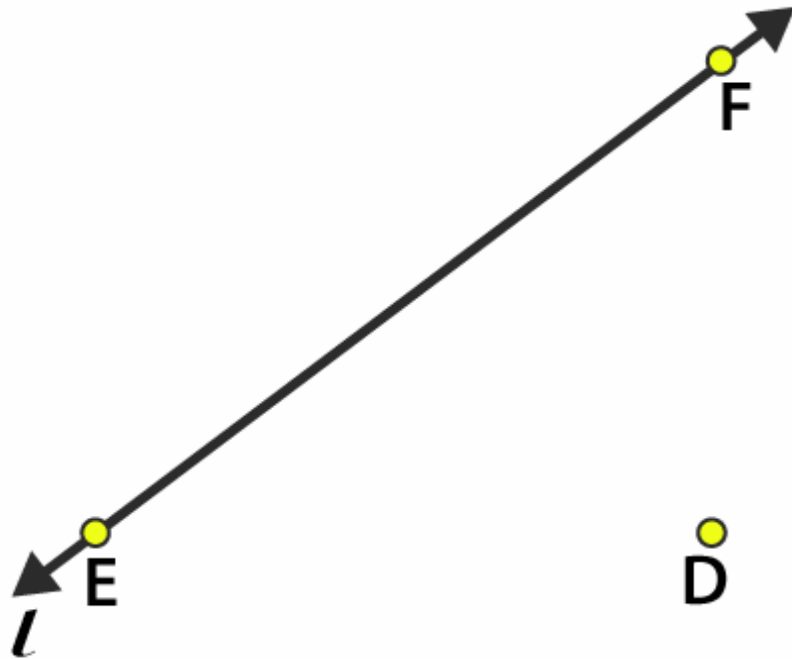A   P   B

(b)
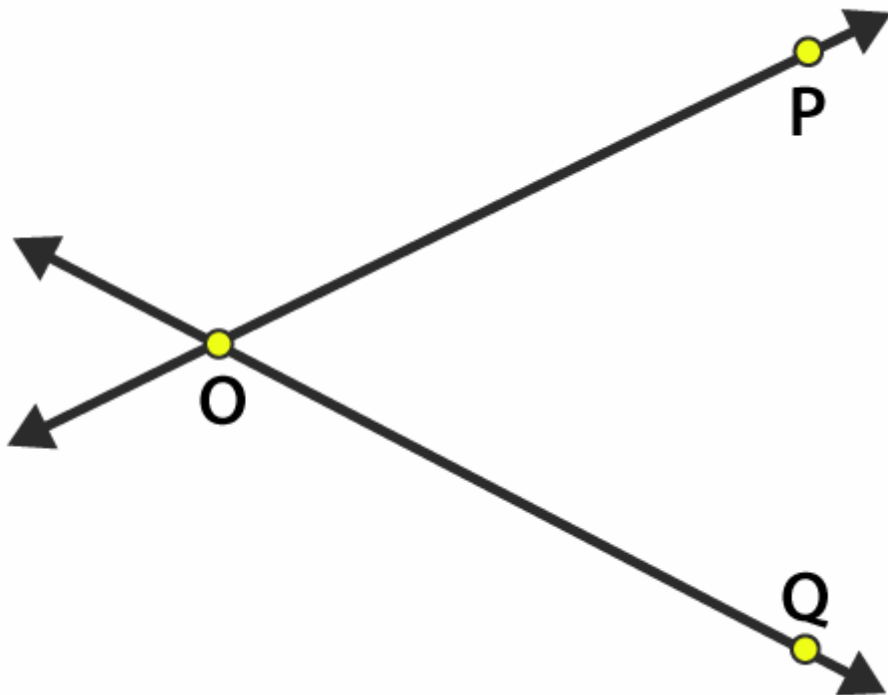

X   P   M   Q   Y

(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 $\overrightarrow{NM}$.
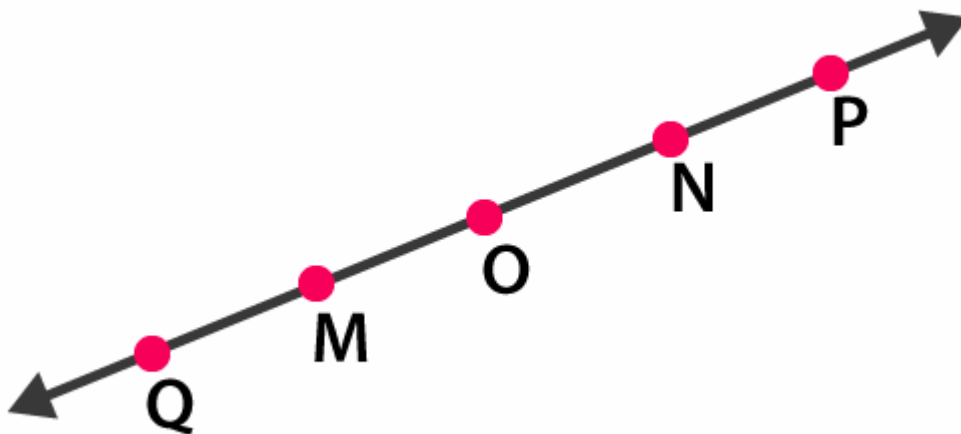
Solutions:

(a) True

(b) True

(c) True

(d) False

(e) False

(f) False

(g) True

(h) False

(i) False

(j) False

(k) True