Mathematics

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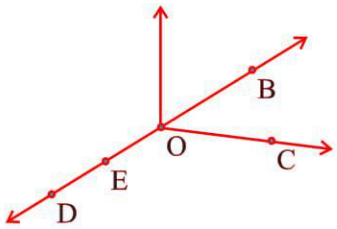
(Chapter – 4) (Basic Geometrical Ideas)
(Class – VI)

Exercise 4.1

Question 1:

Use the figure to name:

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



Answer 1:

(a) Five points are: O, B, C, D, E

(b) A line: $\overline{DE}$, $\overline{DB}$, $\overline{OE}$, $\overline{OB}$

(c) Four rays: $\overrightarrow{OD}$, $\overrightarrow{OE}$, $\overrightarrow{OC}$, $\overrightarrow{OB}$

(d) Four line segments: $\overline{DE}$, $\overline{OE}$, $\overline{OC}$, $\overline{OB}$, , $\overline{OD}$

Question 2:

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

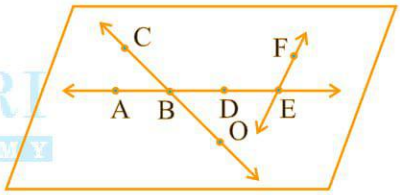
Answer 2:

$\overline{AB}$, $\overline{AC}$, $\overline{AD}$, $\overline{BC}$, $\overline{BD}$, $\overline{CD}$, $\overline{BA}$, $\overline{CA}$, $\overline{DA}$, $\overline{CB}$, $\overline{DB}$, $\overline{DC}$

Question 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.



Answer 3:

(a) A line containing E = $\overline{AE}$ or $\overline{FE}$

(b) A line passing through A = $\overline{AE}$ or $\overline{DE}$

(c) A line on which O lies = $\overline{CO}$ or $\overline{OC}$

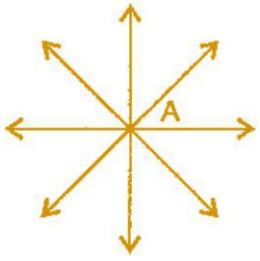
(d) Two pairs of intersecting lines are: $\overline{AD}$, $\overline{CO}$ and $\overline{AE}$, $\overline{FE}$

Question 4:

How many lines can pass though: (a) one given point? (b) two given points

Answer 4:

(a) Infinite number of lines can pass through one given point.



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

Question 5:

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

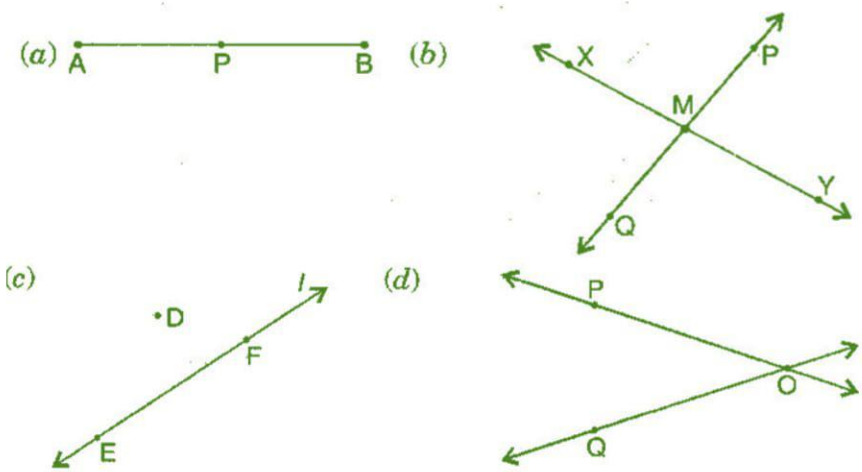
(a) Point P lies on $\overline{AB}$.

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

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

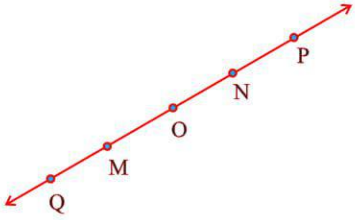
(d) $\overline{OP}$ and $\overline{OQ}$ meet at O.

Answer 5:



Question 6:

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



(a) Q, M, O, N, P are points on the line $\overline{MN}$.

(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 $\overrightarrow{OP}$.

(h) Ray $\overrightarrow{OP}$ same as ray $\overrightarrow{OM}$..

(i) Ray $\overrightarrow{OM}$. is not opposite to ray $\overrightarrow{OP}$.

(j) O is not an initial point of $\overline{NP}$ and $\overline{NM}$.

Answer 6:

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