

CH-8

BASIC GEOMETRICAL CONCEPTS

EXERCISE 8.1

(1) Give the examples of:-

(a) A Point

The tip of Compass, The sharpened end of a pencil, The pointed end of a needle etc.

(b) A line-segment

An edge of a box, A tube light, The edge of a post card etc.

(c) Parallel lines

The opposite edges of a scale, The cross bars of this window, Rail lines etc.

(d) Intersecting lines

Two adjacent edges of your notebook, The letter X of the English alphabet, crossing-roads etc.

(e) Concurrent lines

Table upper edge,

(2) Name the line-segments in given line
AB, AC, AD, BC, CD, BD

(3) How many lines can pass through a point?
Infinite

(4) How many points lie on a line?
Infinite

(5) How many lines pass through two points?
One

(6) Use the figure to name:

(i) Five Points
O, A, B, C, D, E

(ii) A line
BE

(iii) Four Rays
 $\vec{OA}$, $\vec{OB}$, $\vec{OC}$, $\vec{OD}$, $\vec{OE}$

(iv) Five line-segments
OA, OB, OC, OD, OE, DE

(7) Name the given ray in all possible ways.
 $\vec{PQ}$, $\vec{PR}$, $\vec{QR}$

(8) Use the figure to name:

(i) Pair of parallel lines.
l and m

(ii) All pairs of intersecting lines
 p and n ; n and l ; n and m ; p and l ; p and m .

(iii) Line whose point of intersecting is S
 n and m .

(iv) Collinear lines
 P, Q, S and P, R, T

(9) Use the figure to name:

(i) All pairs of parallel lines.
 n and p ; q and p ; n and q

(ii) All pairs of intersecting lines.
 m and l ; m and n ; m and p ; m and q ; l and n ;
 l and p ; l and q .

(iii) Lines whose point of intersection is D
 p and l

(iv) Point of intersection of lines m and p .
 E

(v) All sets of collinear points
 Q, E, C, A and F, D, C, B

(10) Use the figure to name:-

(i) Lines containing point P .
 l and n

(ii) Lines whose point of intersection is B.
l and m

(iii) Point of intersection of lines m and l
B

(iv) All pairs of intersecting lines,
m and l; n and l

(11) State which of the following statements are True (T) or false (F):

(i) Two lines in a plane, always intersect at a point.
False (F)

(ii) If four lines intersect at a point, these are called concurrent lines.
True (T)

(iii) Point has a size because we can see it as a thick dot on the paper.
False (F)

(iv) Through a given point, only one line can be drawn.
false (F)

(v) Rectangle is a part of the plane.
True (T)

EXERCISE 8.2

1 (a) Which of the following are simple curves?

SS: Simple curves:-

(i), (iii), (iv), (vi), (vii), (viii)

(b) Classify the following as open or closed curve.

OPEN CURVES

(iii), (vi), (viii)

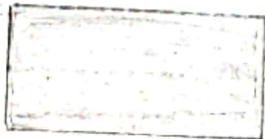
CLOSED CURVES

(i), (ii), (iv), (v), (vii)

(2) Identify the polygons:-

(ii), (iii), (v)

(3) Draw any polygon and shade its interior.



(4) Name the point which are:-

(i) In the interior of the closed figure.
A, B, &

(ii) In the exterior of the closed figure.

(iii) On the boundary of the closed figure.
P, M.

(5) In the given figure, Name.

(i) The vertices

A, B, C, D, E

(ii) The Sides

AB, BC, CD, DE, EA.

(iii) The diagonals.

AC, AD, BE, BD, CE

(iv) Adjacent Sides of AB

AE and BC

(v) Adjacent vertices of E.

A and D

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EXERCISE 8.3

1. Name the given angles in all ways.

(i) $\angle DEF$, $\angle FED$, $\angle E$, $\angle a$

(ii) $\angle XOY$, $\angle YOX$, $\angle O$, $\angle i$

(iii) $\angle NOM$, $\angle MON$, $\angle O$, $\angle x$

2. Name the vertex and the arms of given angles.

(i) vertex :- B
Arms :- $\vec{BC}$, $\vec{BA}$

(ii) vertex :- Q
Arms :- $\vec{QP}$, $\vec{QR}$

(iii) vertex :- O
Arms :- $\vec{OS}$, $\vec{OP}$

(3) Name all the angles of the given figure:-

(i) $\angle X$, $\angle Y$, $\angle Z$

(ii) $\angle P$, $\angle Q$, $\angle R$, $\angle S$.

(iii) $\angle AOB$, $\angle BOC$, $\angle AOC$