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 adjacement 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

$\overrightarrow{OA}$, $\overrightarrow{OB}$, $\overrightarrow{OC}$, $\overrightarrow{OD}$, $\overrightarrow{OE}$

(iv) Five line-Segments

OA, OB, OC, OD, OE, DE

(7) Name the given ray in all possible ways.

$\overrightarrow{PQ}$, $\overrightarrow{PR}$, $\overrightarrow{QR}$

(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
G, 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

(II) 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, those are called Concurrent lines.
True (T)

(iii) Point has a size because we can see it as a think 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?

Sol. 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, Q.

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