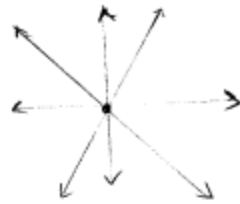


Basic Geometrical Concept

Exercise-10.1.

Solution-01.



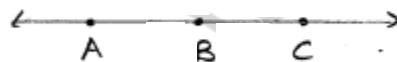
unlimited number of lines can be drawn through a single point

Solution-02:



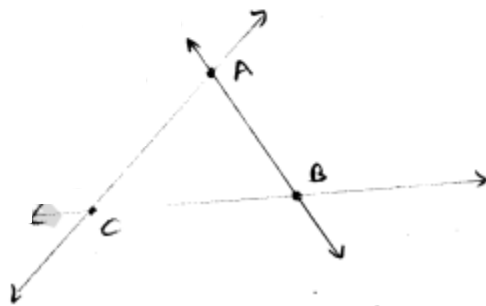
one line can be drawn through two distinct given points.

Solution-03:



one line can be drawn through three collinear points.

Solution-04:



Lines \overleftrightarrow{AB} , \overleftrightarrow{BC} and \overleftrightarrow{CA} [Three Lines can be drawn through 3 non collinear points.]

Solution-05:

(i) Five points are O, B, C, D, E

(ii) A Line \overleftrightarrow{EF} . more answers are possible

(iii) \overrightarrow{OC} , \overrightarrow{OB} , \overrightarrow{EB} , \overrightarrow{DB} ;

more answers are possible.

(iv) \overrightarrow{OB} , \overrightarrow{OC} , \overrightarrow{DE} , \overrightarrow{DO} , \overrightarrow{DB} ; more answers are possible

Solution-06:

(i) Line contacting 'A' is \overleftrightarrow{AE} ;

more answers are possible

(ii) Line passing through A is \overleftrightarrow{AE}

(iii) Line on which point O lies. \overleftrightarrow{OC}

(iv) Two pairs of intersecting Lines

\overleftrightarrow{AE} , \overleftrightarrow{OC} ; \overleftrightarrow{AE} , \overleftrightarrow{EF}

Solution-07:

(i) collinear points area A, D, C, B, D, E.

(ii) concurrent Lines and their Point of concurrence
area $\triangle B$ and m, p, q ; Point A.

Solution-08

(i) Pairs of Parallel Lines

l, m

l, n

m, n .

(ii) All Pairs of intersecting Lines

L, P;

m, P;

n, P;

L, q;

m, q;

n, q;

t, r;

m, r;

n, r;

P, q;

P, r;

q, r;

(iii) concurrent points are n, r, q.

(iv) collinear points are

A, B, C;

A, H, I, D;

D, E, F, G;

C, I, E;

B, H, F.

Solution-09:-

(i) Number of Line segments.

\overline{AB} , \overline{BD} , \overline{AC} , \overline{AD} , \overline{BC} and \overline{CD}

(ii) Number of Line segments

\overline{AB} , \overline{BC} , \overline{CD} , \overline{AD} , \overline{AE} , \overline{AC} , \overline{EC} , \overline{BE} , \overline{BD} and \overline{ED} .

(iii) Number of Line segments 8.

\overline{AB} , \overline{BC} , \overline{CD} , \overline{AD} , \overline{AE} , \overline{BE} , \overline{CE} and \overline{DE}

Solution -10:-

(i) Rays whose initial points are A, B and C respectively,

\overrightarrow{AB} , \overrightarrow{AC} , \overrightarrow{AD} , \overrightarrow{AE} ; \overrightarrow{BC} , \overrightarrow{BD} , \overrightarrow{BE} , \overrightarrow{CD} , \overrightarrow{CE} , \overrightarrow{CA} , \overrightarrow{CB}
 \overrightarrow{BA}

(ii) No, AB ^{not} different from AD

(iii) No.

(iv) Yes

(v) Yes.

Solution-11:-

(i) True

(ii) True

(iii) True

(iv) False

(v) False

(vi) False

(vii) False

(viii) False

(ix) True

(x) False

(xi) True

Exercise -10.2

Solution-1:

(i) In the given figure there are '4' Angles.

$\angle A, \angle B, \angle C, \angle D$

Solution-02:

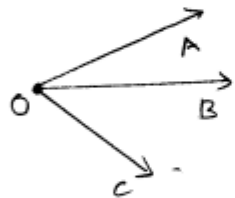
(i) A is the point interior of $\angle DOE$

(ii) A, D, C are exterior points of $\angle EOF$

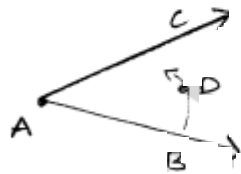
(iii) O, B, E, F are points on $\angle EOF$

Solution-03:

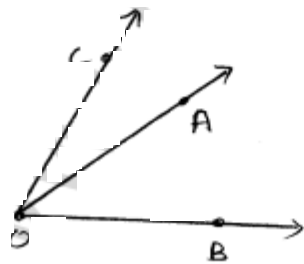
(i) one point in common 'o'



(ii) two points in common



(iii) one ray in common



\vec{OA} is common for $\angle COA$ & $\angle AOB$.

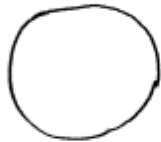
Exercise 10.3.

Solution 01:

(i) open simple curve



(ii) closed simple curves.



(iii) open curve that is not simple



(iv) closed curve that is not simple



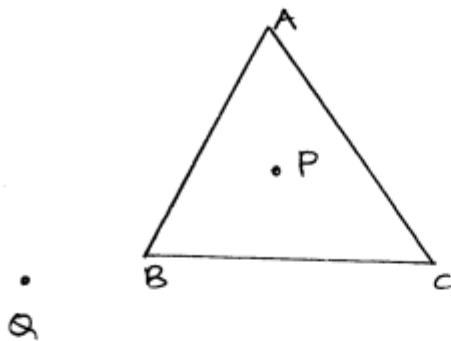
(*) Solution -02:

(i) yes, It is a curve

(ii) yes, It is a closed curve

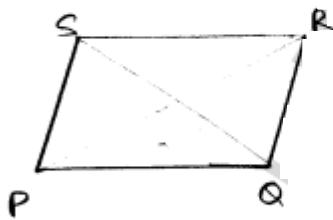
(iii) yes, It is a polygon

Solution - 03:



The point A is neither in the exterior nor in the interior of $\triangle ABC$ in fact, the point A lies on the boundary of $\triangle ABC$.

Solution 04:



it has two diagonals \overrightarrow{PR} , \overrightarrow{SQ} .

Solution 05:-

(i) Yes

(ii) Yes

(iii) its diagonals are \overline{AC} and \overline{BD}

(iv) diagonal \overline{AC} is in the interior and diagonal \overline{BD} is in the exterior of quadrilateral $ABCD$.

Solution-06:-

- (i) \overline{KL} , \overline{MN} ; \overline{LM} , \overline{NK}
- (ii) $\angle K$, $\angle M$; $\angle L$, $\angle N$
- (iii) \overline{KL} , \overline{LM} ; \overline{LM} , \overline{MN}
- (iv) $\angle K$, $\angle L$; $\angle L$, $\angle M$.

Exercise-10.4.

Solution-01

- (i) The centre of the circle point O.
- (ii) three radii \overline{OA} , \overline{OB} , \overline{OC} .
- (iii) a diameter \overline{AC}
- (iv) a chord \overline{ED}
- (v) interior points O and P
- (vi) Point Q
- (vii) $\triangle OAB$ (shaded portion)
- (viii) segment \overline{EPD} (shaded portion)

Solution-02:

- (i) True
- (ii) False
- (iii) True
- (iv) True