

Total lecture = 1

Lecture-I

Reflections.

1) Reflection of a point w.r.t x-axis
 $(x, y) \rightarrow (x, -y)$

2) Reflection of a point w.r.t y-axis
 $(x, y) \rightarrow (-x, y)$

3) Reflection of a point w.r.t origin
 $(x, y) \rightarrow (-x, -y)$

4) Reflection of a point w.r.t $y=x$ line
 $(x, y) \rightarrow (y, x)$

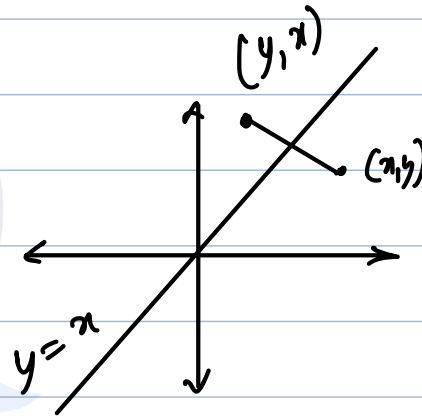


Illustration.

1) Using a graph paper, plot the points $A(6,4)$ & $B(0,4)$.

i) Reflect A & B w.r.t the origin to get the images A' & B' .

ii) Write the coordinates of A' & B'

iii) State the geometrical name for the figure $ABA'B'$.

iv) Find its perimeter.

2) Use a graph paper for this question (Take 2 cm = 1 unit on both x and y axis)

(i) Plot the following points:

$A(0, 4)$, $B(2, 3)$, $C(1, 1)$ and $D(2, 0)$

(ii) Reflect points B , C , D on the y -axis and write down their coordinates. Name the images as B' , C' , D' respectively.

(iii) Join the points A , B , C , D , D' , C' , B' and A in order, so as to form a closed figure. Write down the equation of the line of symmetry of the figure formed.

3) Use graph paper to answer the following questions. Take 1 cm = 1 unit on both the axes.

(i) Plot the points $A(4, 6)$ and $B(1, 2)$.

(ii) Take A' as the image of A when reflected in x -axis.

(iii) Take B' as the image of B when reflected in the line AA' .

(iv) Give the geometrical name to the figure $ABA'B'$.

Look at the graph given below.

(2009)

4)

Use graph paper to answer the following questions. (Take 2 cm = 1 unit)

- (i) Plot the points $A(-4, 2)$ and $B(2, 4)$.
- (ii) A' is the image of A when reflected in the y -axis. Plot it on the graph paper and write the co-ordinates of A' .
- (iii) B' is the image of B when reflected in the line AA' . Write the co-ordinates of B' .
- (iv) Write the geometric name of the figure $ABA'B'$.
- (v) Name a line of symmetry of the figure formed. (2014)

5)

Use graph paper for this question (Take 2 cm = 1 unit along both x and y axis). $ABCD$ is a quadrilateral whose vertices are $A(2, 2)$, $B(2, -2)$, $C(0, -1)$ and $D(0, 1)$.

- (i) Reflect quadrilateral $ABCD$ on the y -axis and name it as $A'B'CD$.
- (ii) Write down the coordinates of A' and B' .
- (iii) Name two points which are invariant under the above reflection.
- (iv) Name the polygon $A'B'CD$. (2018)

Invariant $\rightarrow$ Never changing.