# AI1110 assignment1(ICSE Class 10 2017)

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## 1 question (7b):

Use a graph paper for this question (Take $2cms = 1unit$ 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.

## 2 Solution:

(i) the plot of all points in last plot section labebled with A,B,C,D

(ii) As for the reflection of points B,C,D gives B',C',D' with either the coordinate geometry image formula or we can just multiply $'-1'$ with x coordinates and get new x-coodrinates .

$$x - coordinate(B') = -(x - coordinate(B)) \tag{1}$$
$$x - coordinate(C') = -(x - coordinate(C)) \tag{2}$$
$$x - coordinate(D') = -(x - coordinate(D)) \tag{3}$$

The y coordinate remains same.

$$y - coordinate(B') = y - coordinate(B) \tag{4}$$
$$y - coordinate(C') = y - coordinate(C) \tag{5}$$
$$y - coordinate(D') = y - coordinate(D) \tag{6}$$

Now we get B'(−2,3) C'(−1,1) D'(−2,0)

(iii) joining the points in order A, B, C, D, D', C', B' and A gives a polygon which is shown below.
As reflection of B,C,D are B',C',D' wrt y-axis it can be said that The line of symmetry is y-axis and its equation is
line of symmetry:

$$x = 0. \tag{7}$$

# 3 PLOT:

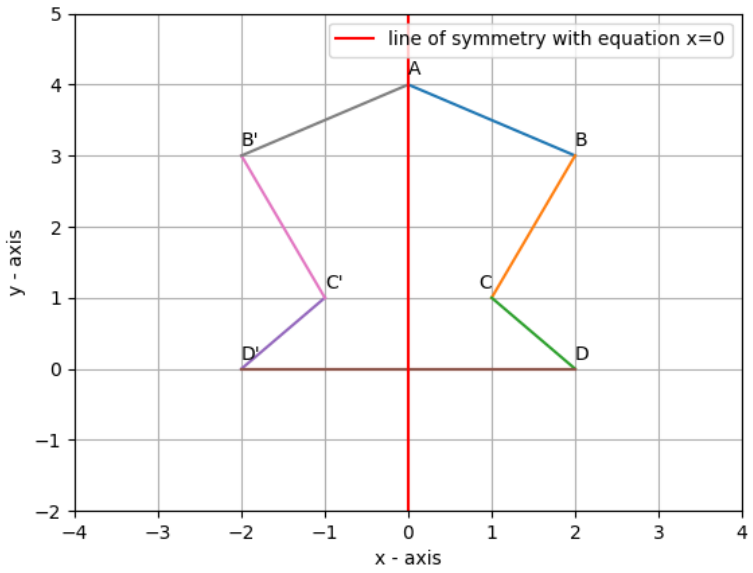


Figure 1: Plot of all points and figure formed