

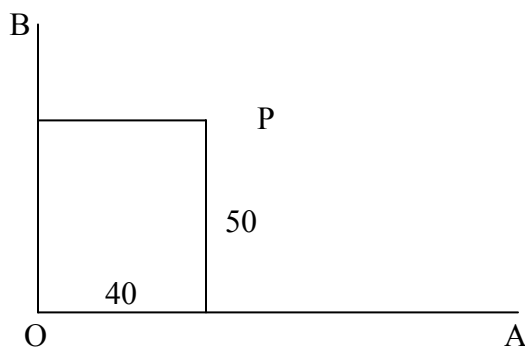
Q) A point P is 40 mm and 50 mm away from two straight lines OA and OB which are at right angles to each other. Draw a rectangular hyperbola through P, showing at least 8 points.

Ans)

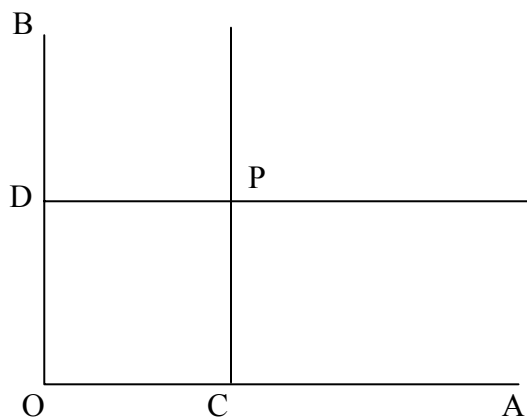
Logic:

Since OA and OB are at 90° with each other, they can be treated as coordinate axes and hence P (40, 50) can be marked. Then select 4 points above and 4 points below and through these points, we can get points of hyperbola.

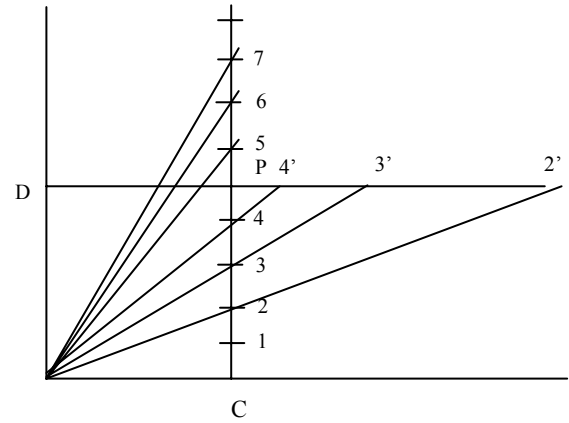
- 1) Draw OA, OB \perp to each other, of any length.
Mark P at (40, 50) from OA, OB.



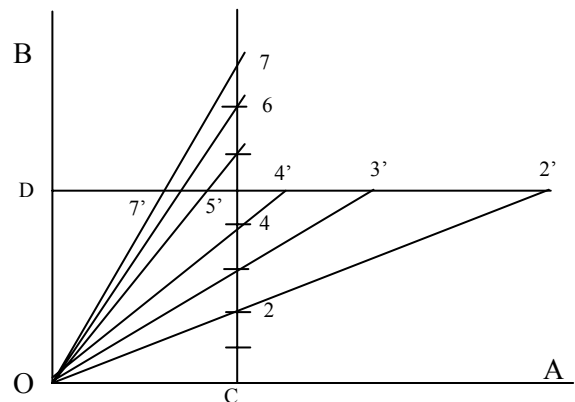
- 2) At P, draw lines parallel to OA & OB and extend them. Name the lines as CP & DP.



- 3) Divide CP into 5 equal parts of 10 mm each and mark points as 1, 2, 3, 4 from C to P and then at same 10 mm, mark points 5,6,7,8 above P.



- 4) Join O1, O2, etc to cut DP at 1', 2', etc.



- 5) From 1,2,3 etc draw lines parallel to OA & from 1', line parallel to OB to meet at P1. Get all points and join to get the required hyperbola.

