MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

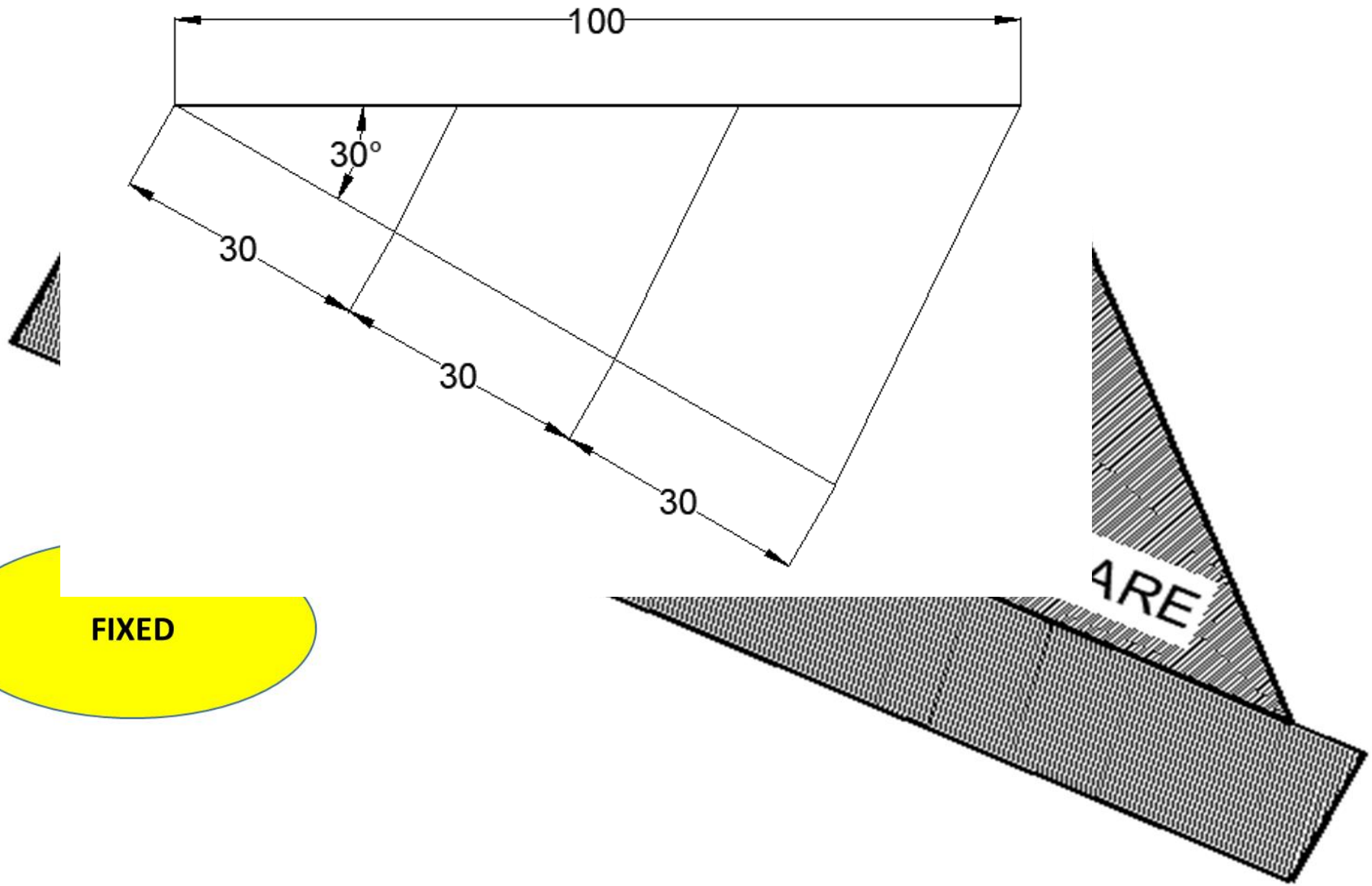
Department of Mechanical and Manufacturing Engineering

ENGINEERING GRAPHICS - II

CLASS 3: DEVELOPMENT OF SURFACES

(SHEET 3)

DIVIDING A LINE IN TO EQUAL NUMBER OF PARTS



QUESTION BANK: DEVELOPMENT OF SURFACES PROBLEM 2

A vertical cylinder with base diameter 50 mm and axis 80 mm is resting with its base on HP. Such a cylinder is cut in ways as shown in the front views in fig. D-1. Draw the development of the lateral surfaces of the cylinder in each case.

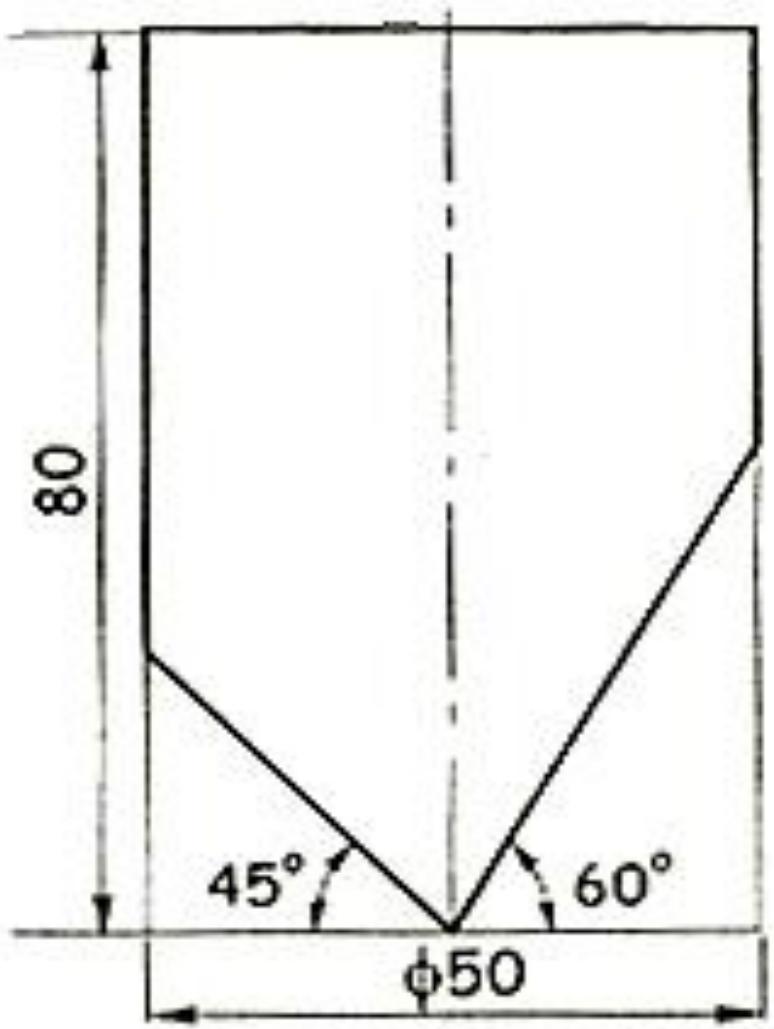
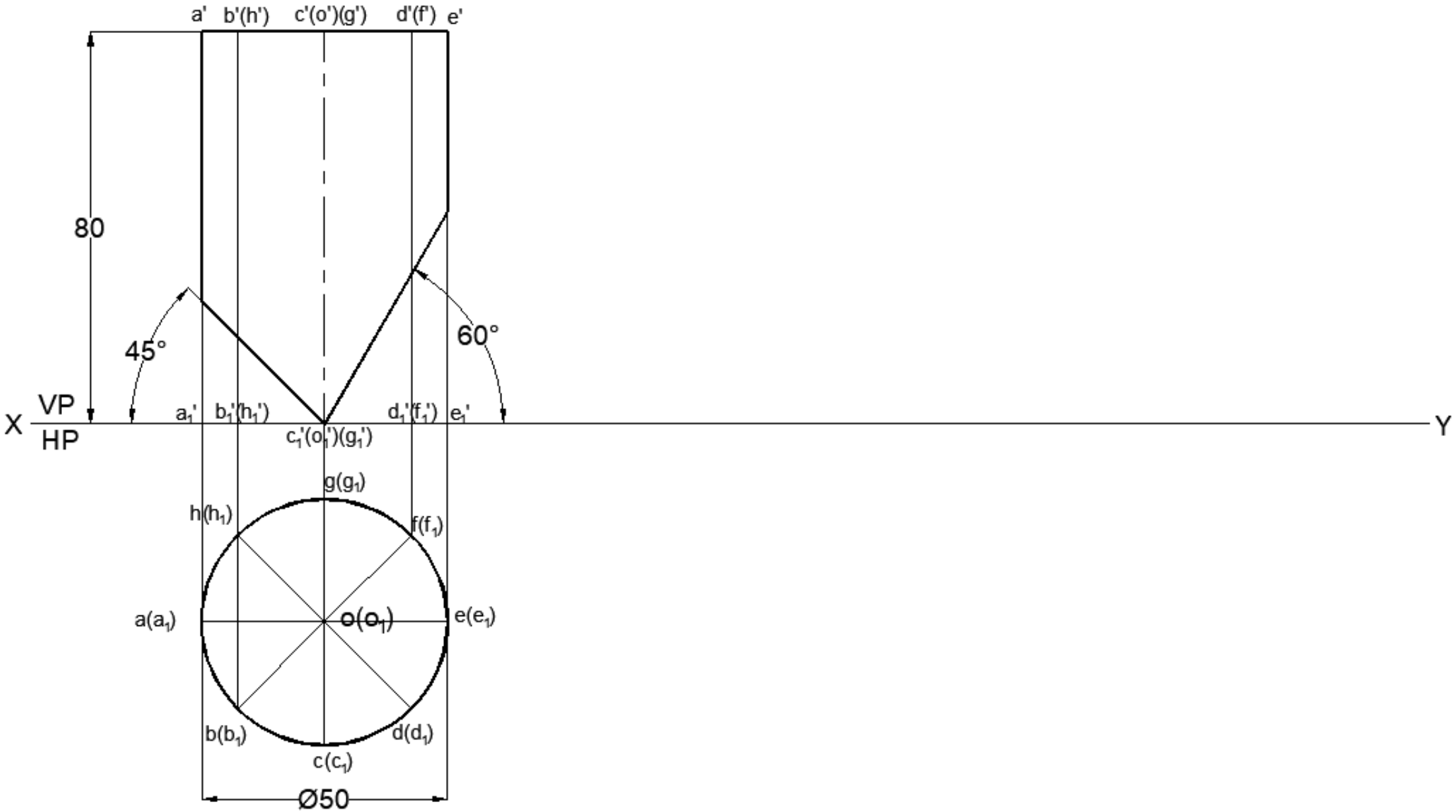


Fig. D-1

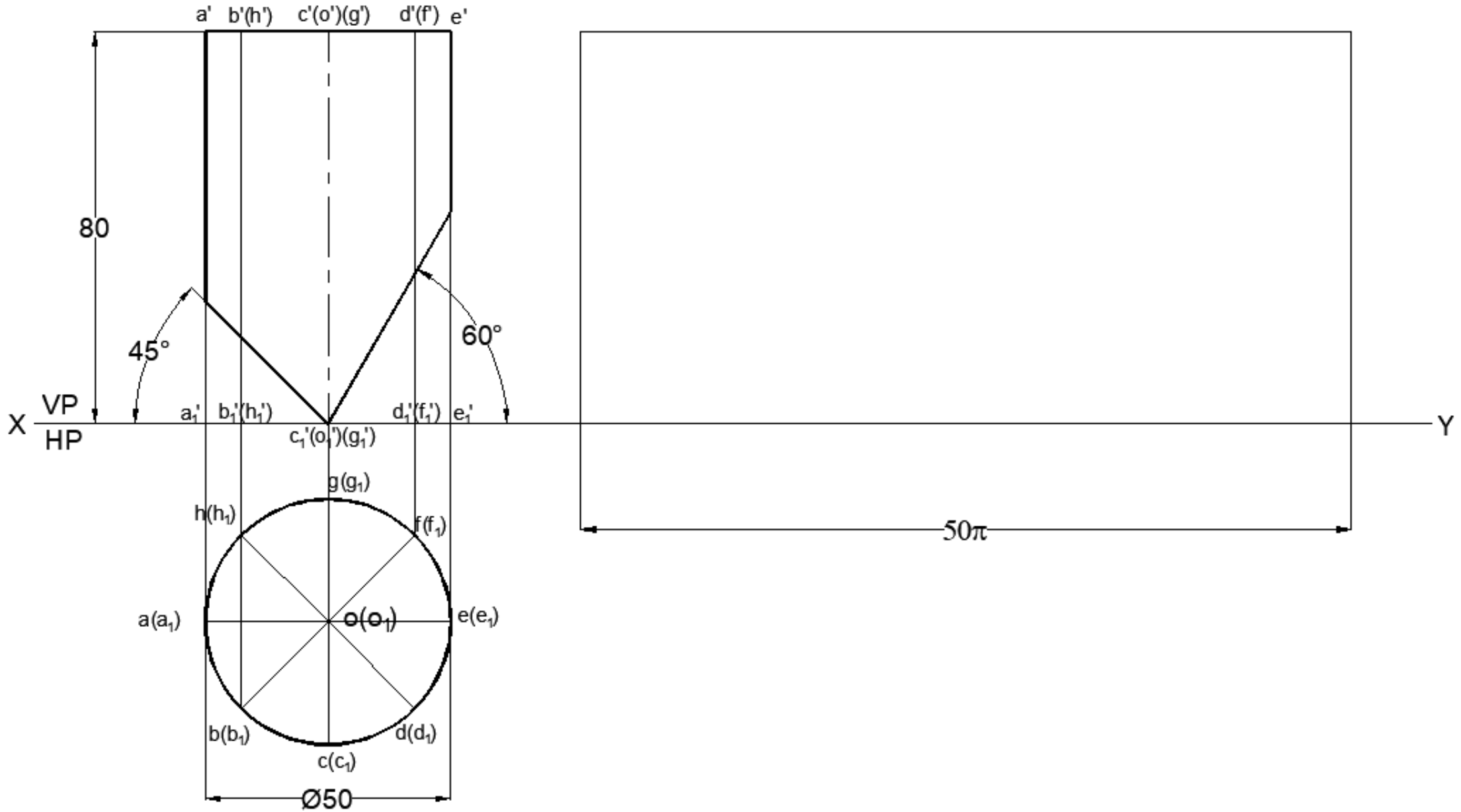
Steps Involved

- Draw the front & top views of the given solid



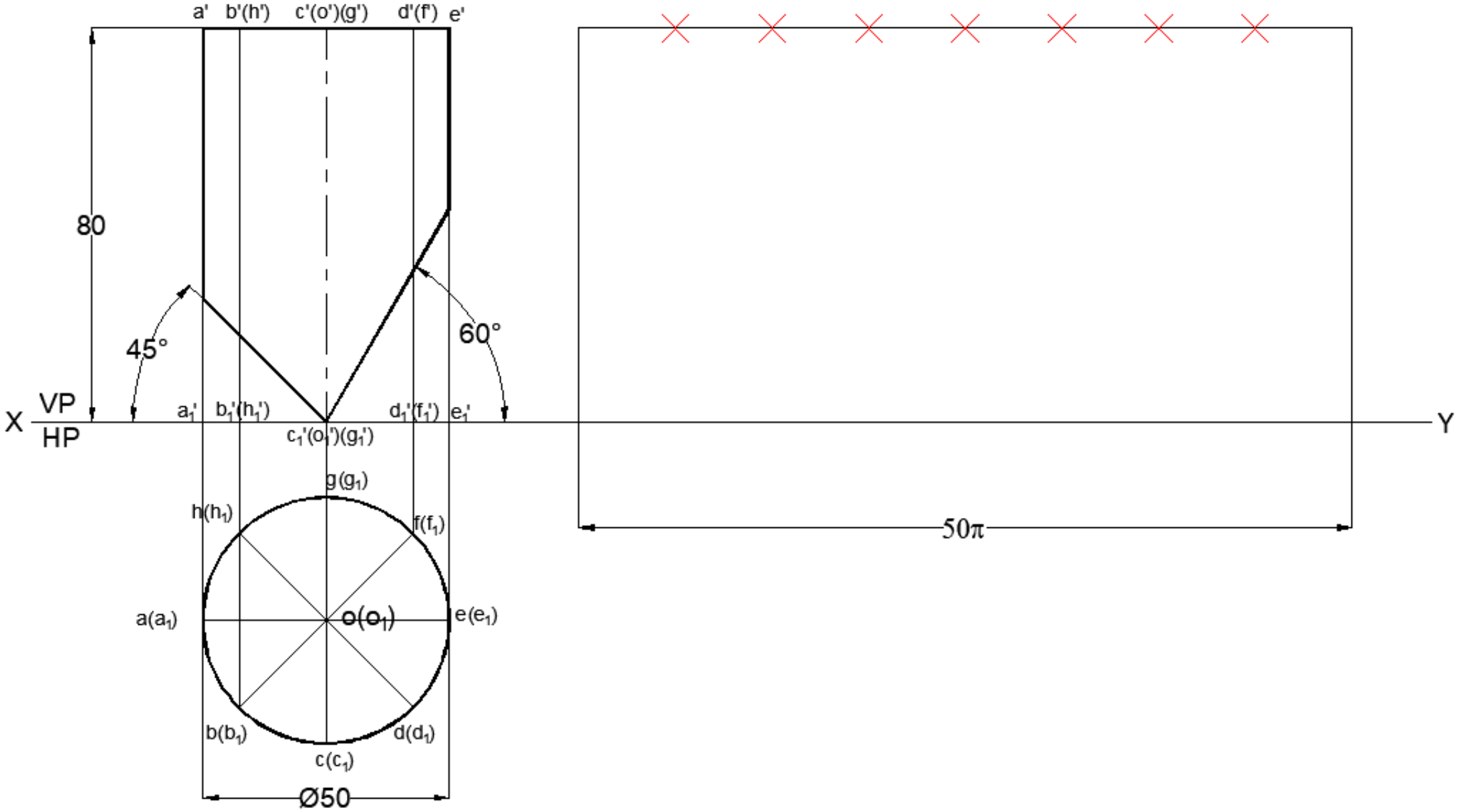
Steps Involved

- Draw the development as rectangle of length equal to circumference & breadth equal to height of cylinder



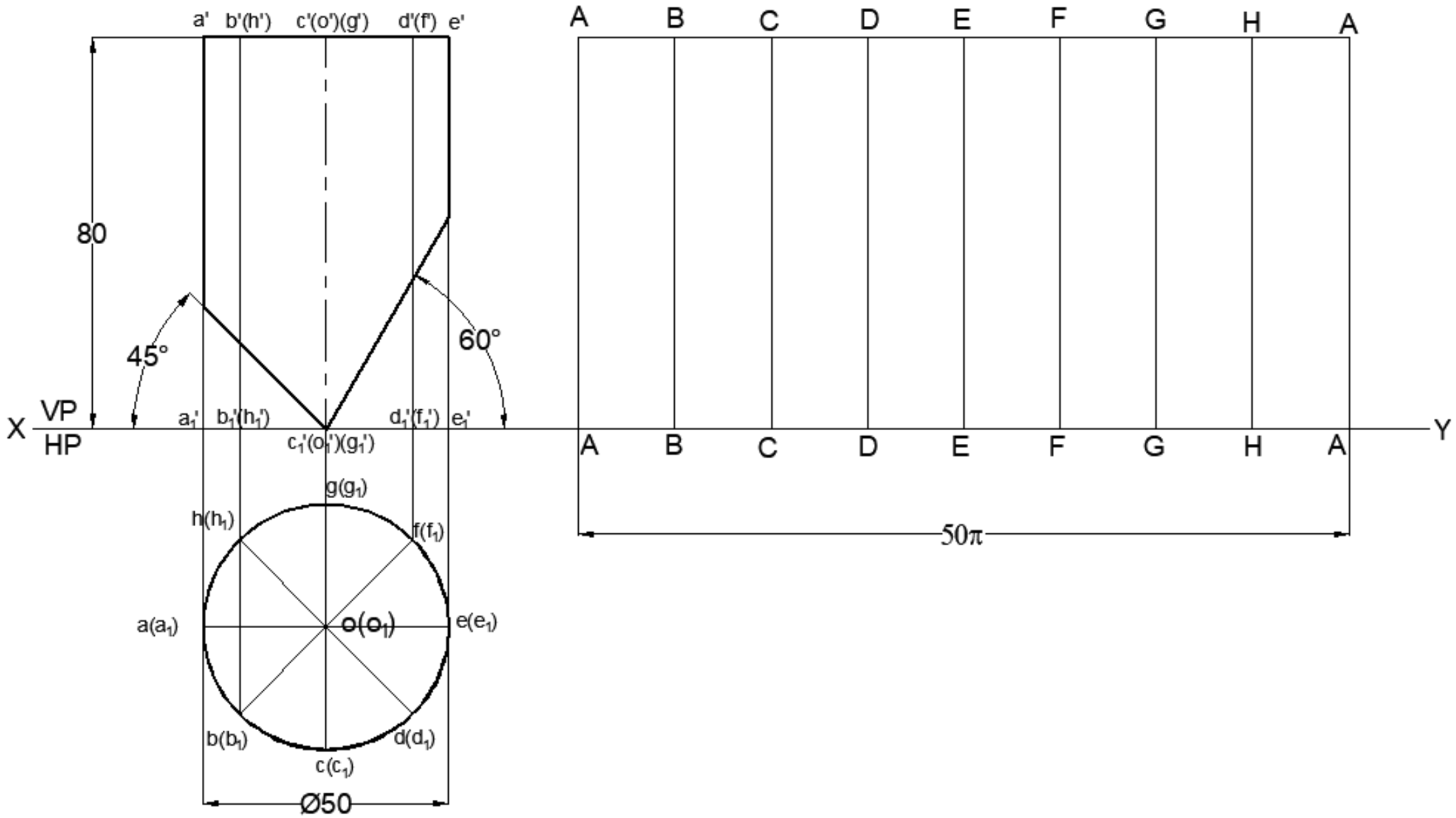
Steps Involved

- Divide the length in to 8 equal parts using dividing technique



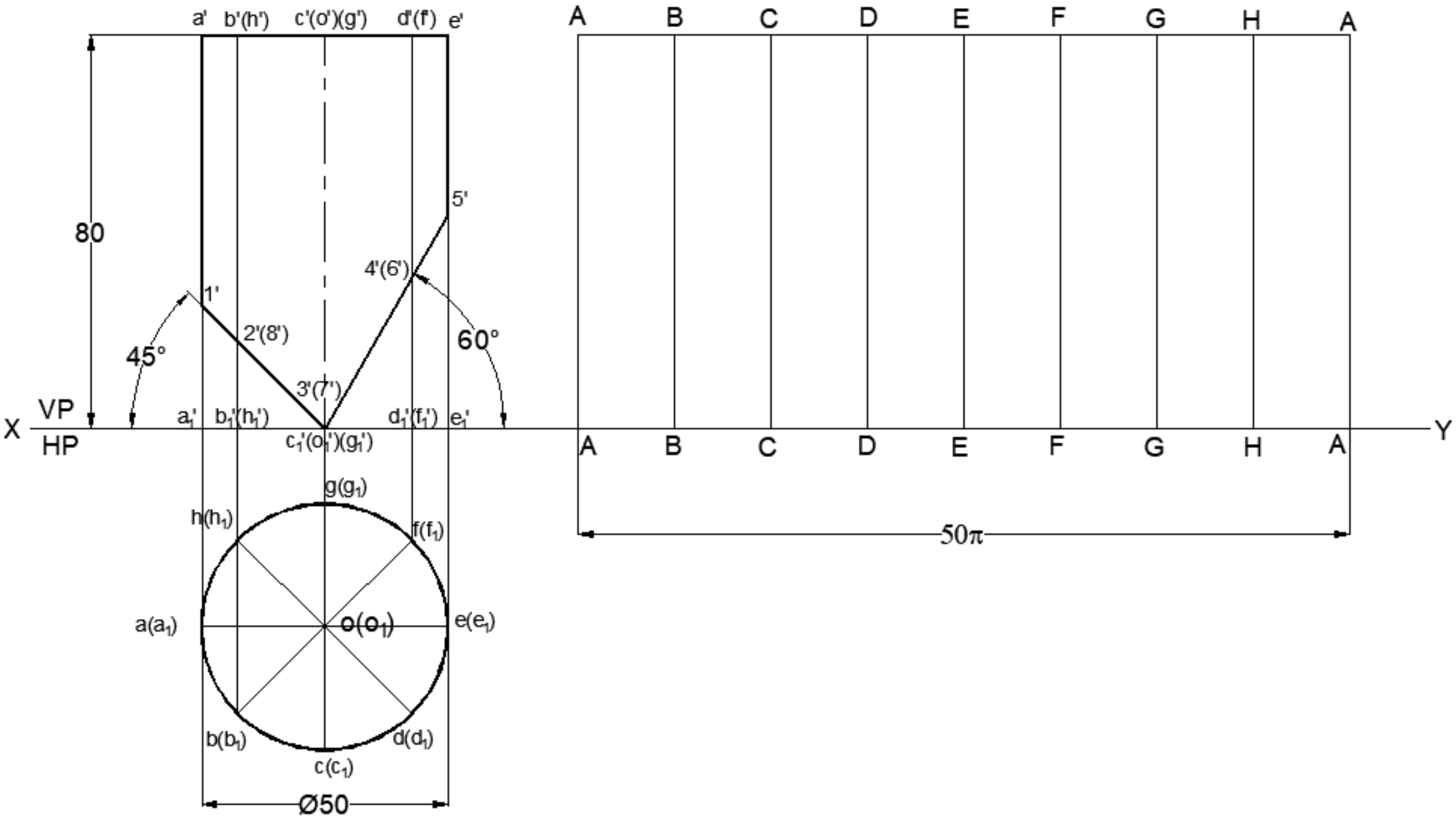
Steps Involved

- Draw and mark all the generators



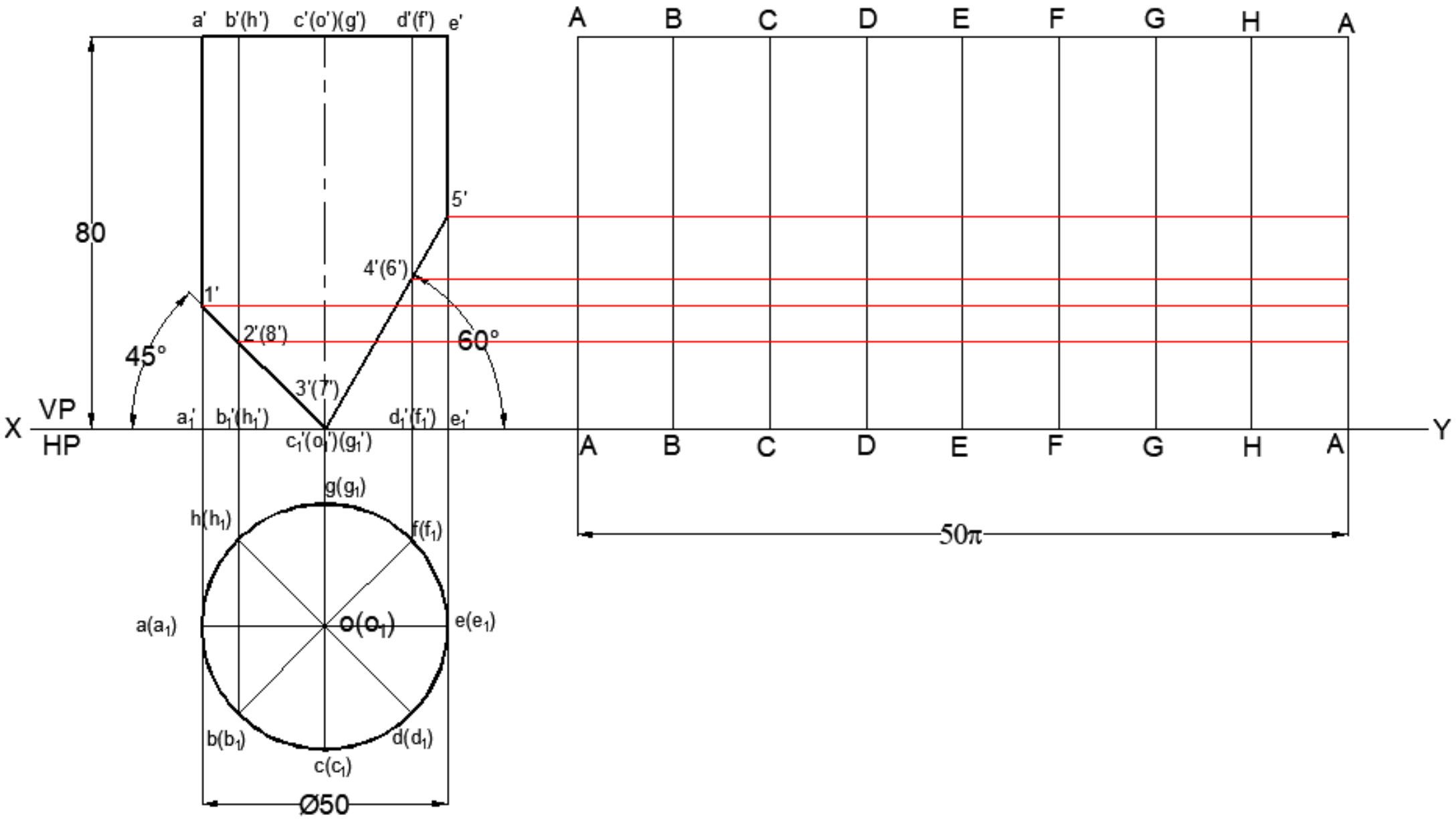
Steps Involved

- Identify all the cutting points and name them (1’,2’…..)



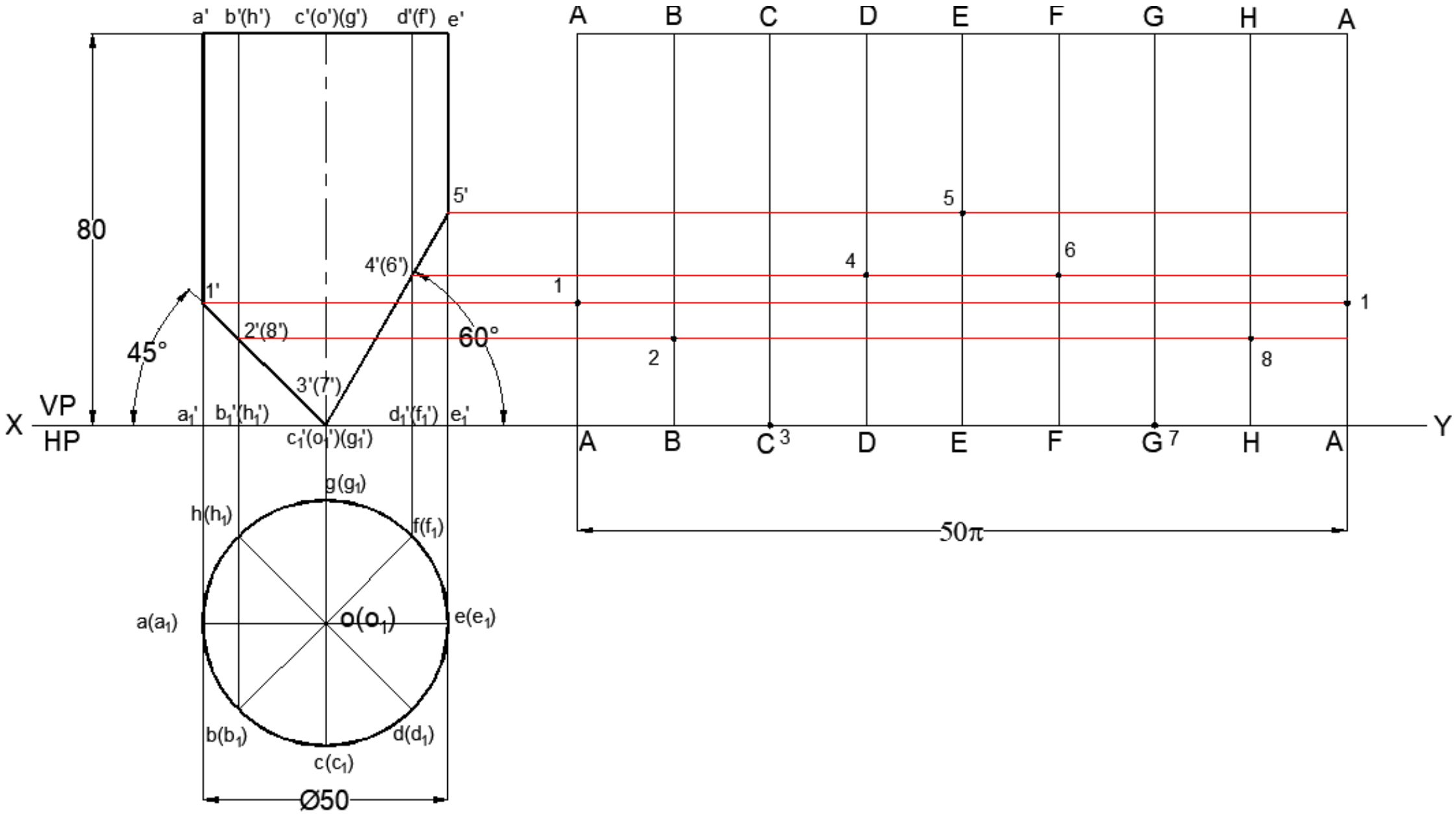
Steps Involved

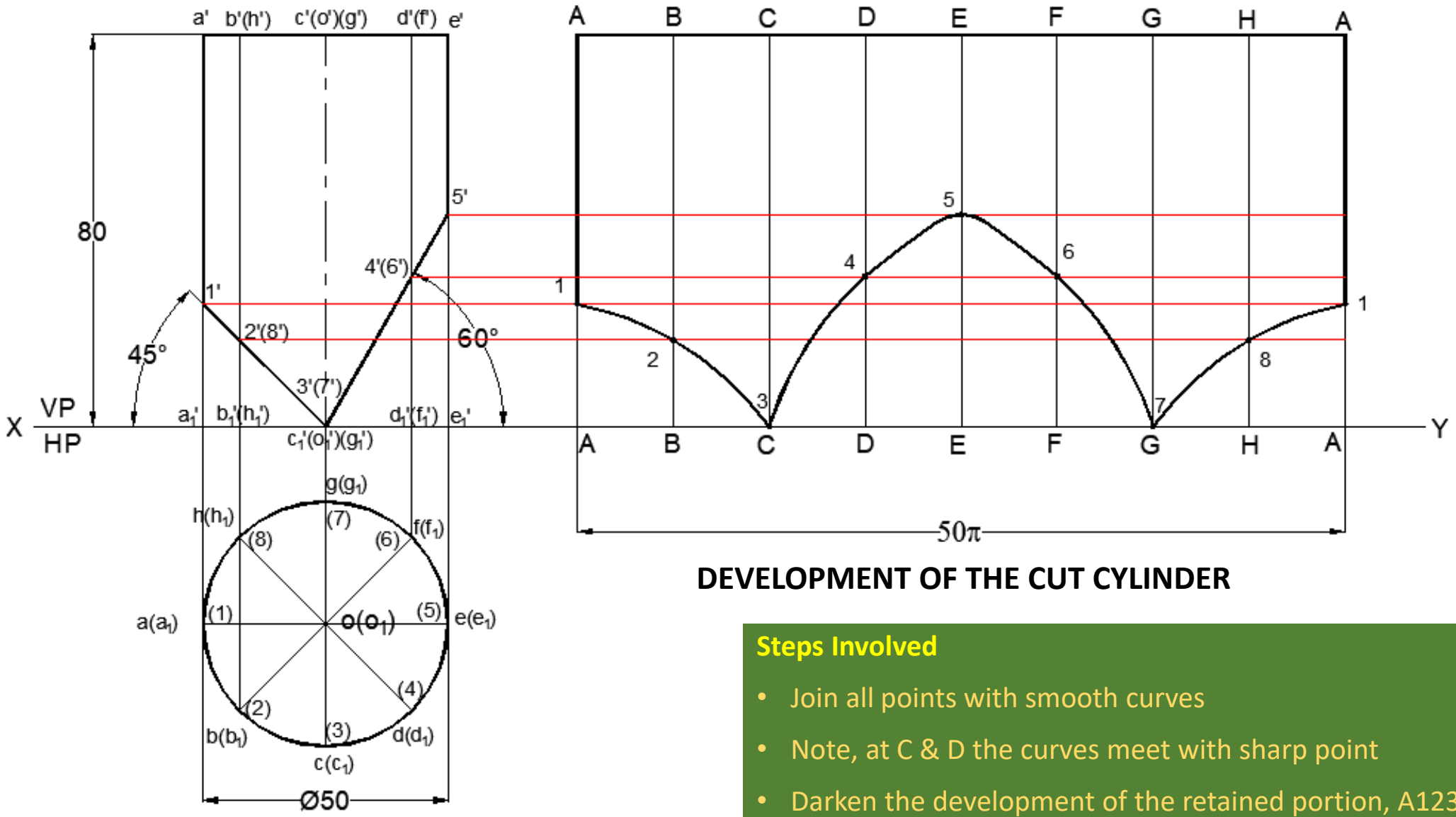
- Project all points on to the development horizontally to cut corresponding generators



Steps Involved

- Mark all the points on the generators





DEVELOPMENT OF THE CUT CYLINDER

Steps Involved

- Join all points with smooth curves
- Note, at C & D the curves meet with sharp point
- Darken the development of the retained portion, A123456781AHGFEDCBA