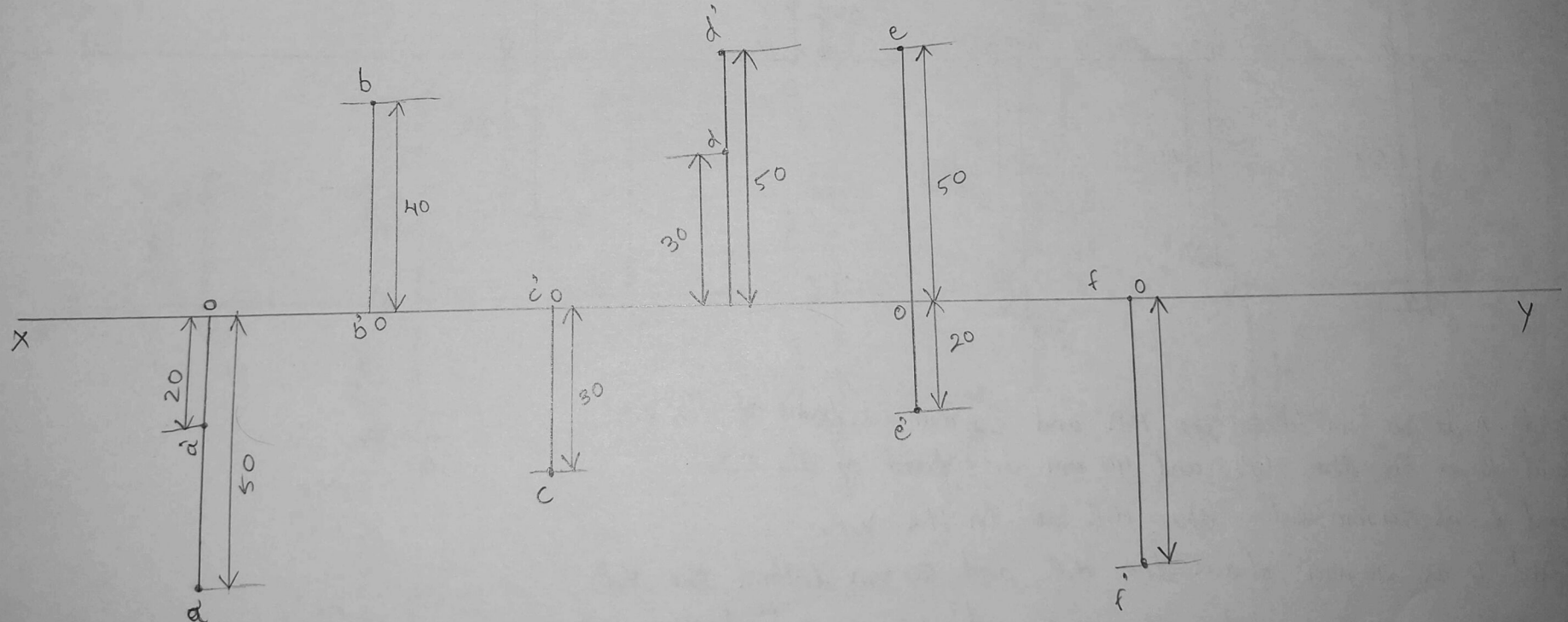
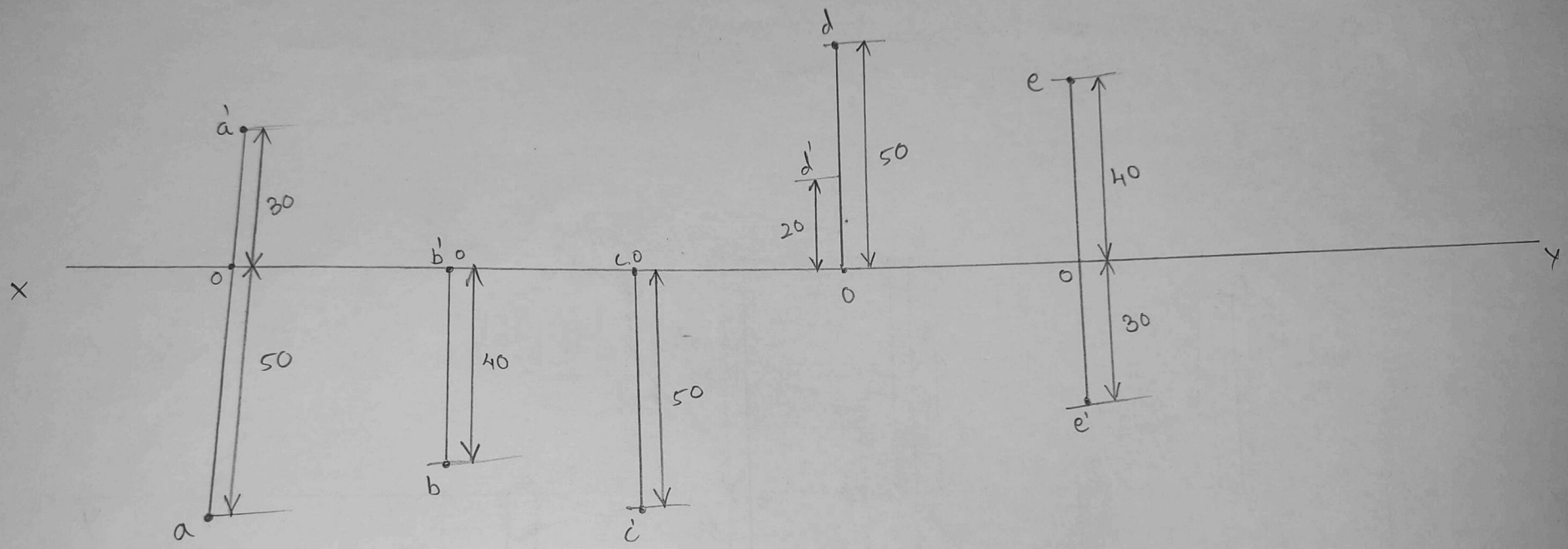
Ques Draw the projections of the following points on a common reference line keeping the distance between their projectors 30 mm apart.

a) point A is 20 mm below the H.P. and 50 mm in front of the VP.
b) point B is in the H.P. and 40 mm behind the V.P.
c) point C is 30 mm in front of the VP and in the HP.
d) point D is 50 mm above the H.P. and 30 mm behind the V.P.
e) point E is 20 mm below the H.P. and 50 mm behind the V.P.
f) point F is in the V.P. and 50 mm below the H.P.

Solution :-



Qus Projection of various points is given in fig 8.12. state the position of each point with respect to the planes of projection.



Solution

(a) Point A is 30 mm above the H.P. and 50 mm in front of the V.P.

(b) Point B is in the H.P. and 40 mm in front of the V.P.

(c) Point C is 50 mm below the H.P. ~~and~~ in the V.P.

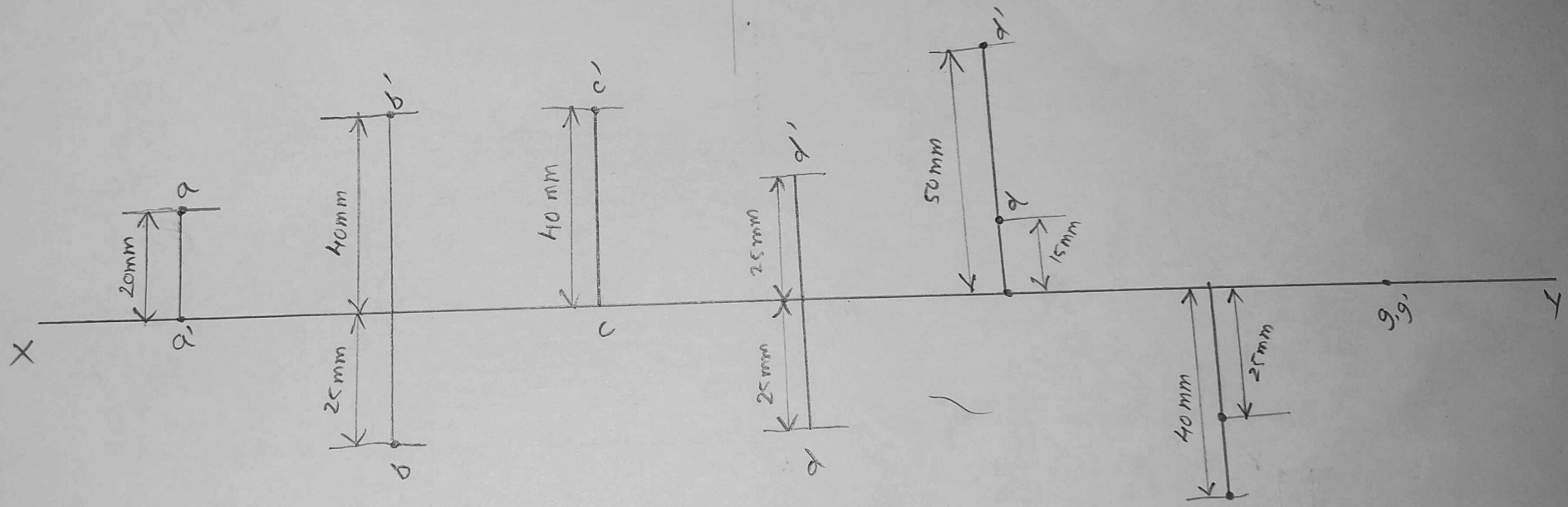
(d) Point D is 20 mm above the H.P. and 50 mm behind the V.P.

(e) Point E is 30 mm below the H.P. and 40 mm behind the V.P.

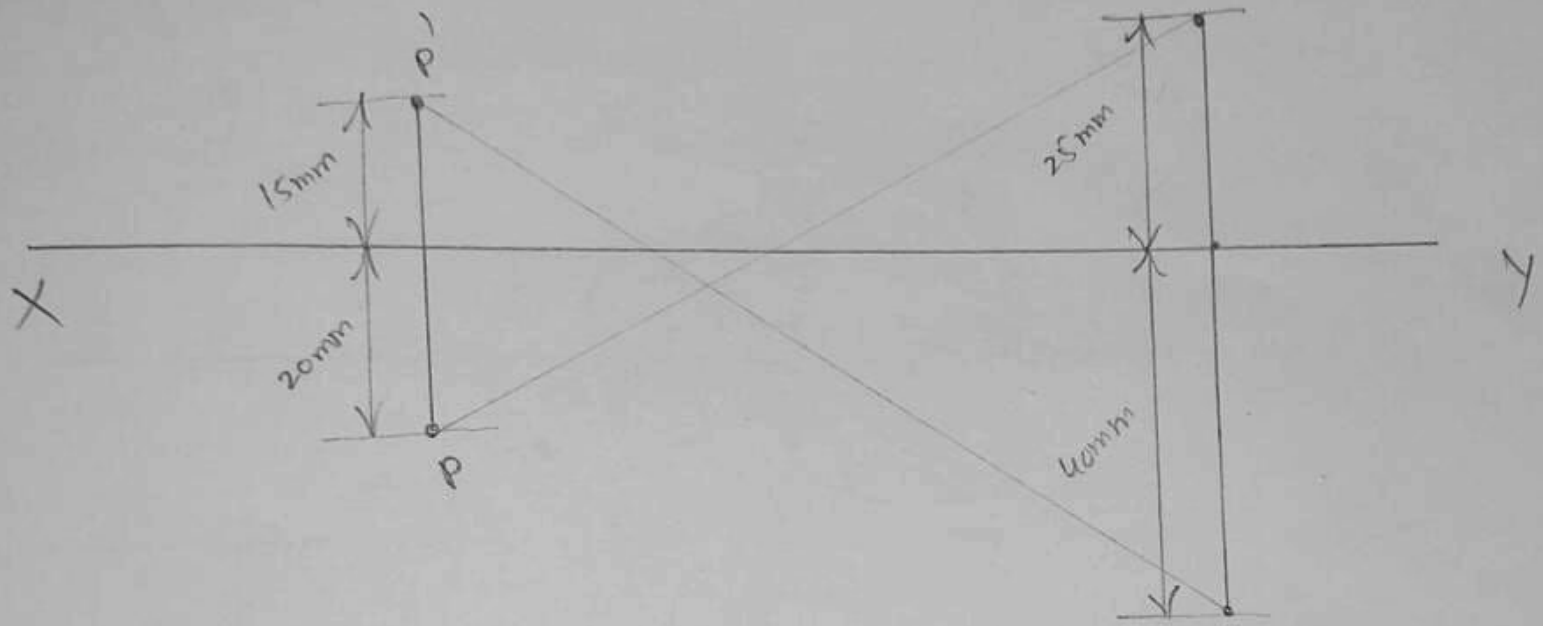
Ex 9

Que 1 Draw the projections of the following points on the same ground line keeping the projectors 25 mm apart.

A, in the H.P. and 20 mm behind the V.P.
B, 40 mm above the H.P. and 25 mm in front of the V.P.
C, in the V.P. and 40 mm above the H.P.
D, 25 mm below the H.P. and 25 mm behind the V.P.
E, 15 mm above the H.P. and 50 mm behind the V.P.
F, 40 mm below the HP, and 25 mm in front of the V.P.
G, in both the H.P. and the V.P.



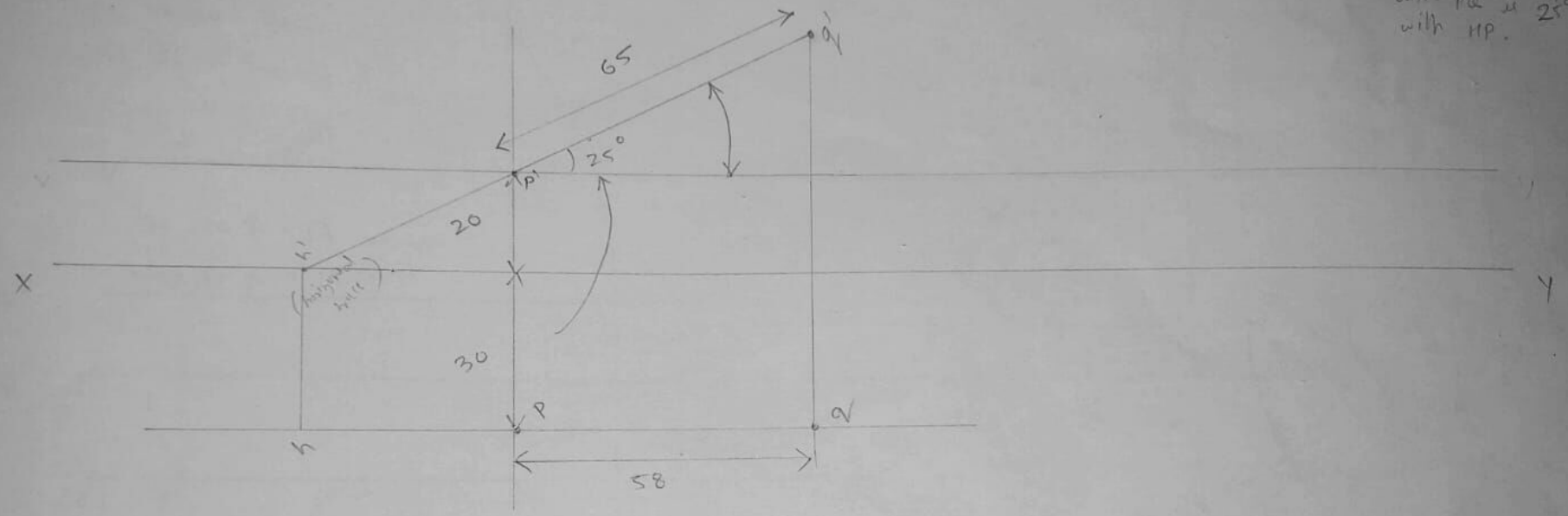
Ques 4
Solution



2] Line is inclined to one plane and parallel to the another plane.

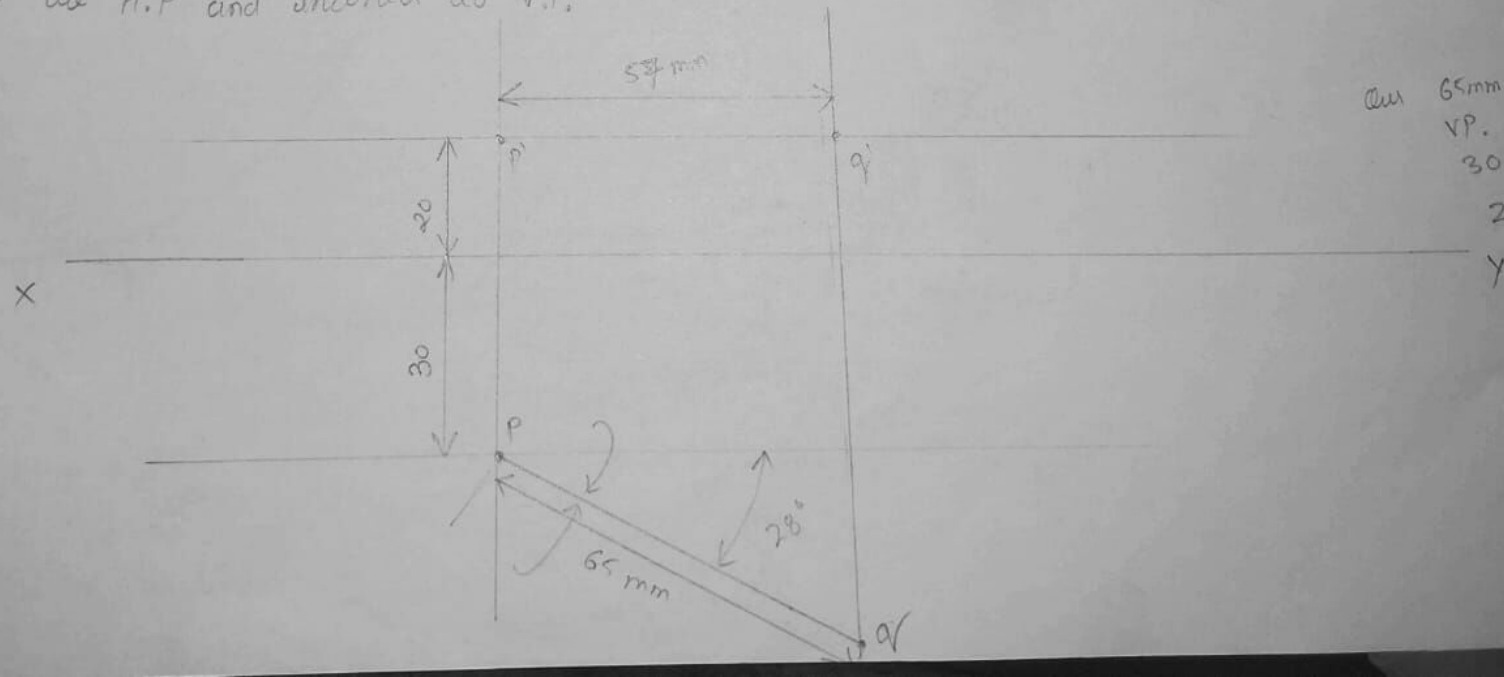
a] parallel to V.P. and inclined to H.P.

Qus 65mm line PQ is close to horizont plane and 20 mm above HP 30 mm in front of VP line PQ is 25° inclined with HP.



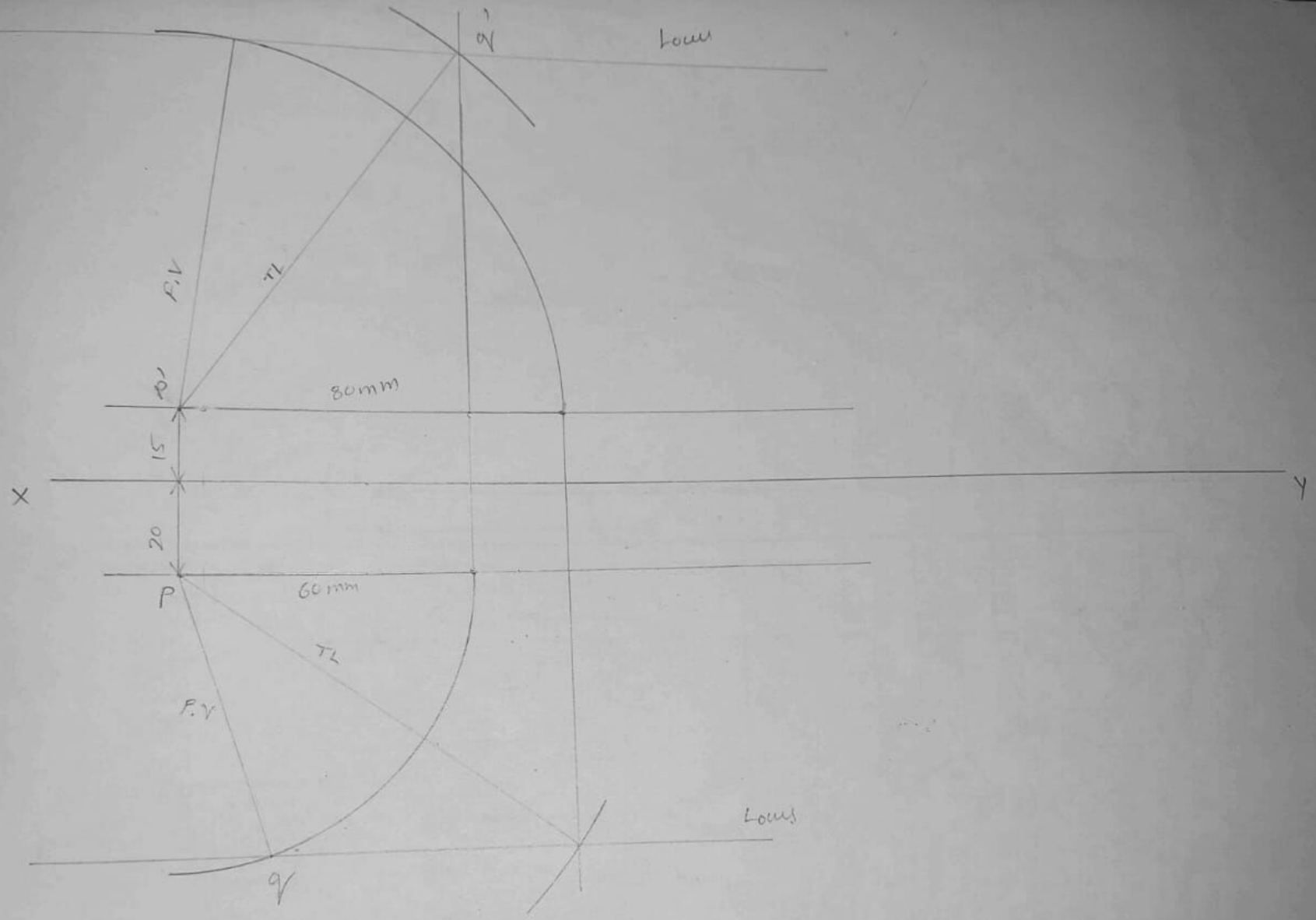
b] parallel to H.P and inclined to V.P.

Qus 65mm PQ is close to VP. 20 mm above HP 30 mm in front of VP 28° inclined to VP.



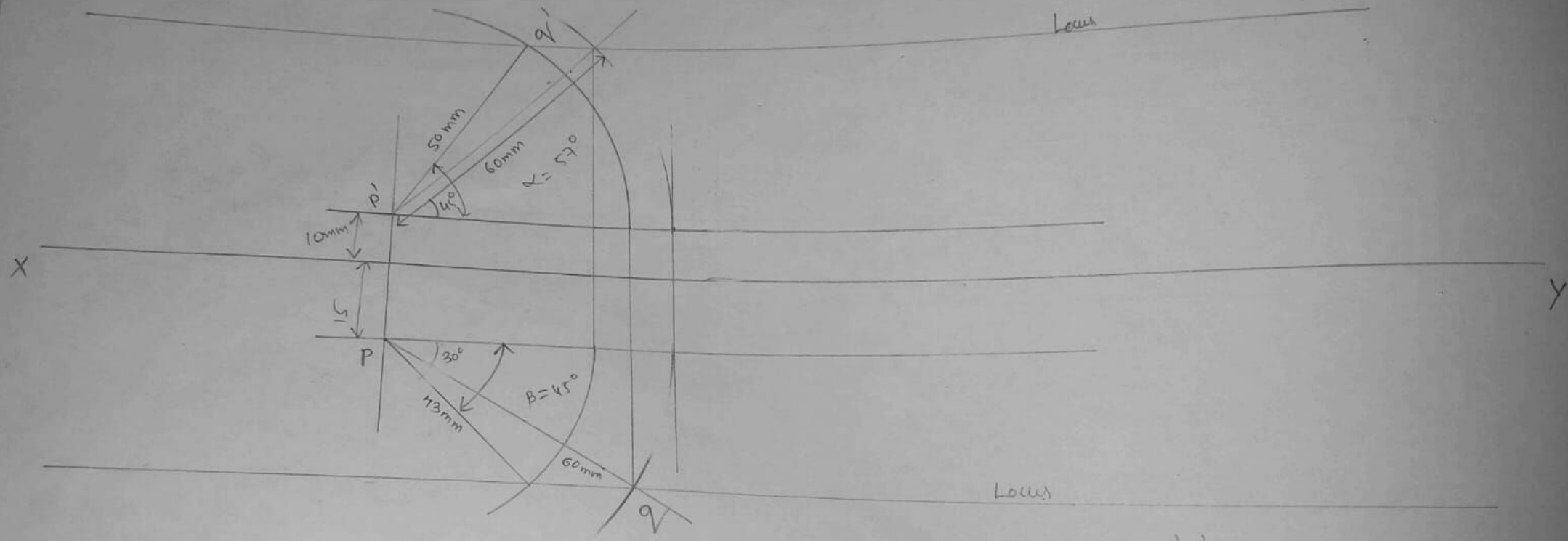
9.27

Solu:-



Ans:- $\alpha = 72^\circ$

$\phi = 81^\circ$

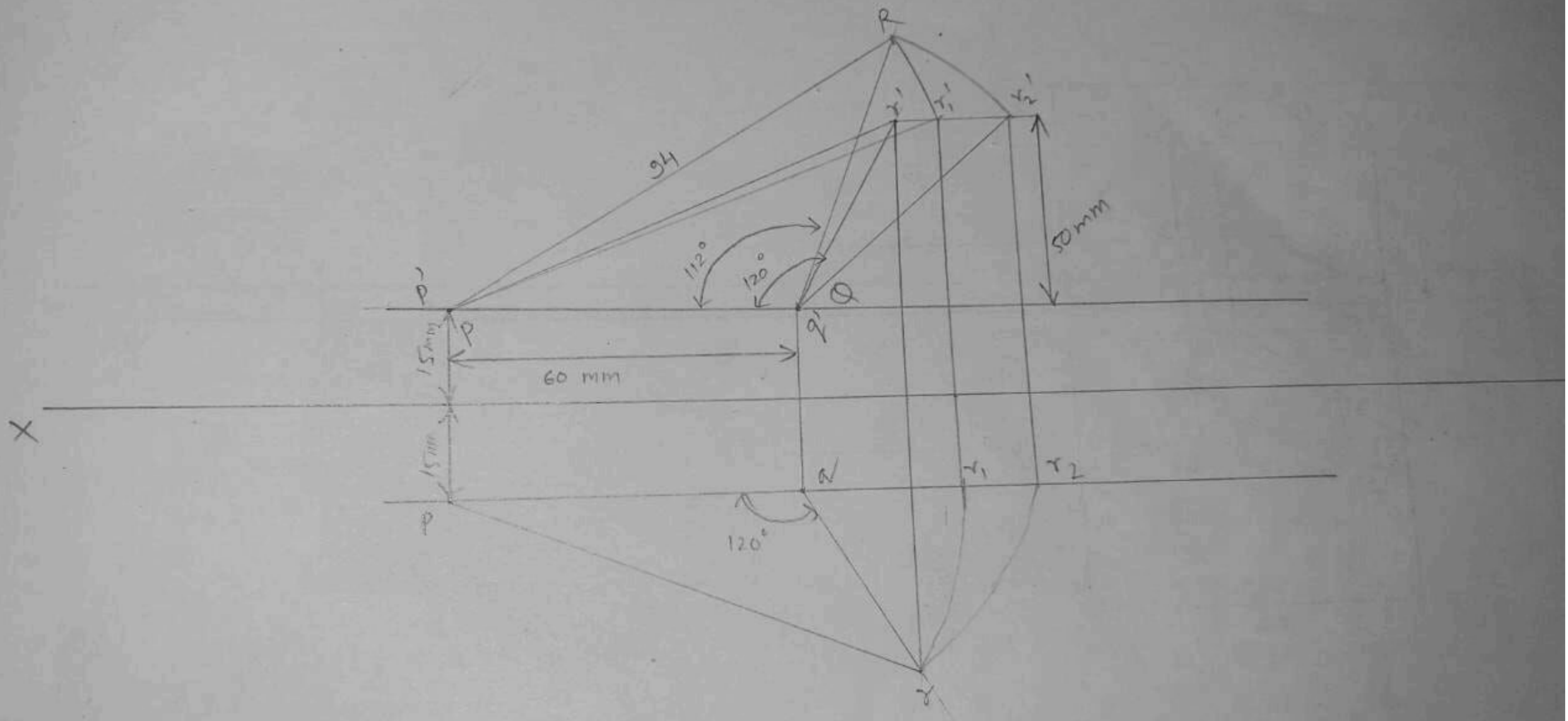


Appaent length = 50mm p'q'

apaunt length = 43 mm pq

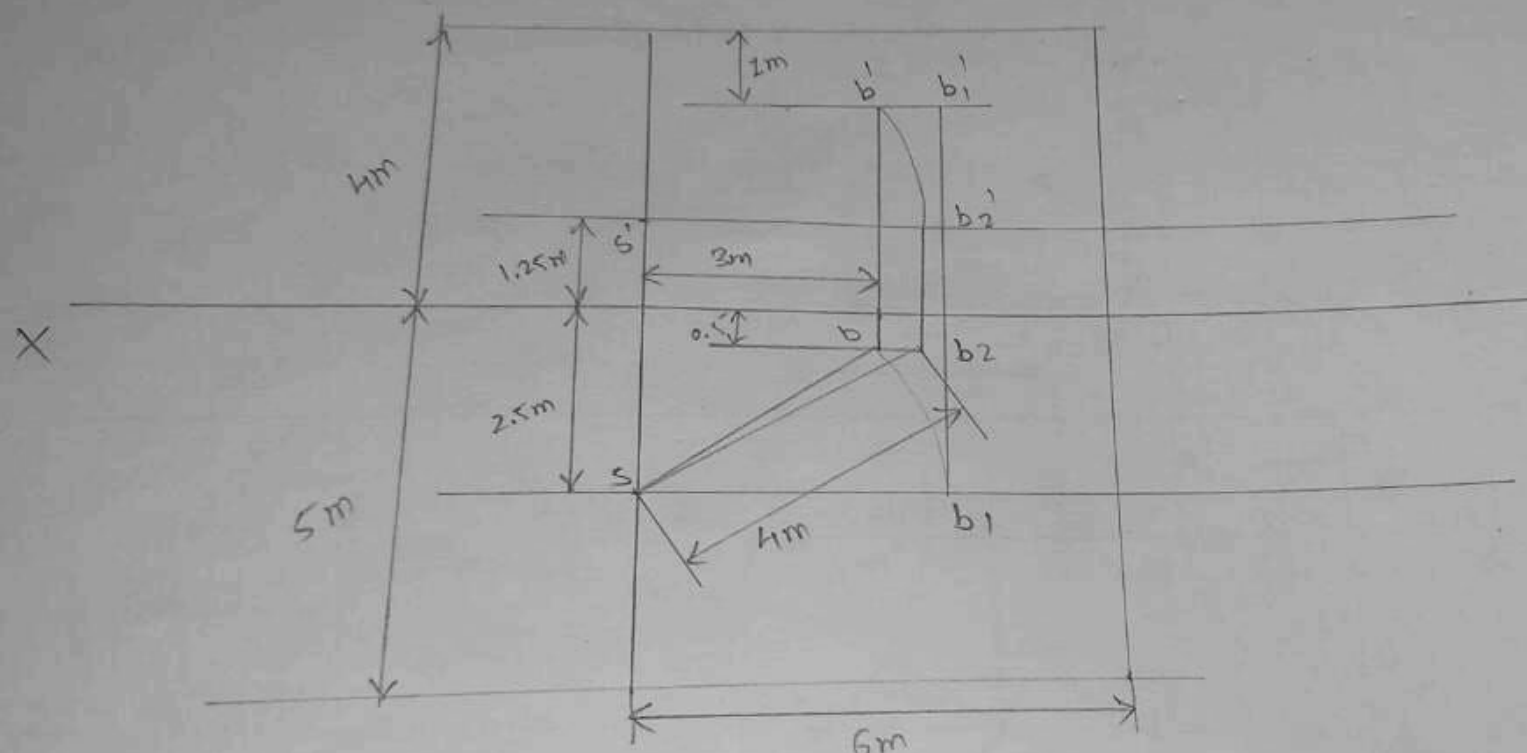
$\alpha = 57°$

$\beta = 45°$

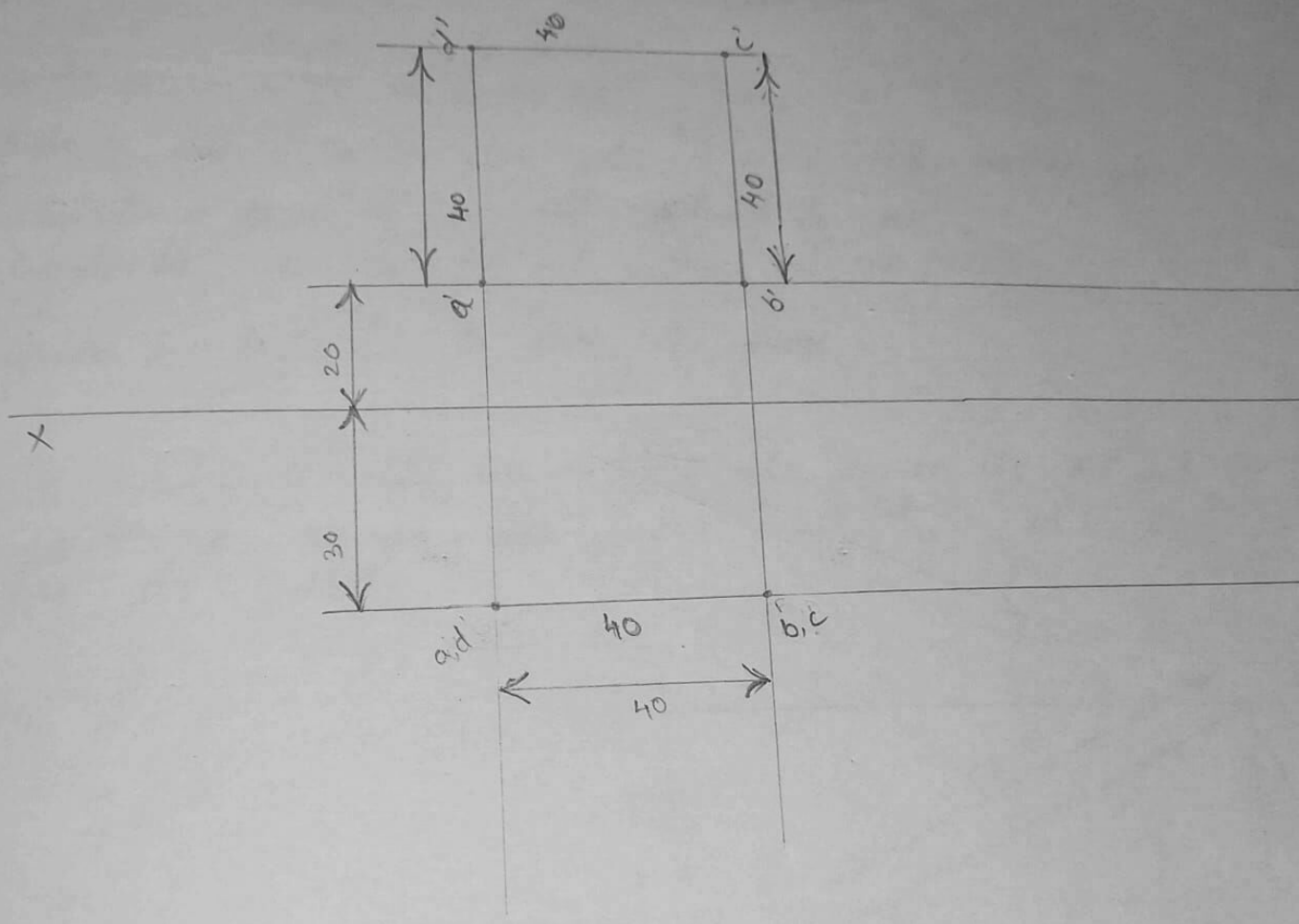

R
r'
r'1
r'2
94
50 mm
112°
120°
p'
P
q'
Q
15 mm
60 mm
X
15 mm
q
r1
r2
p
120°
r

Ques 9.1.4

Solu



(a) solution

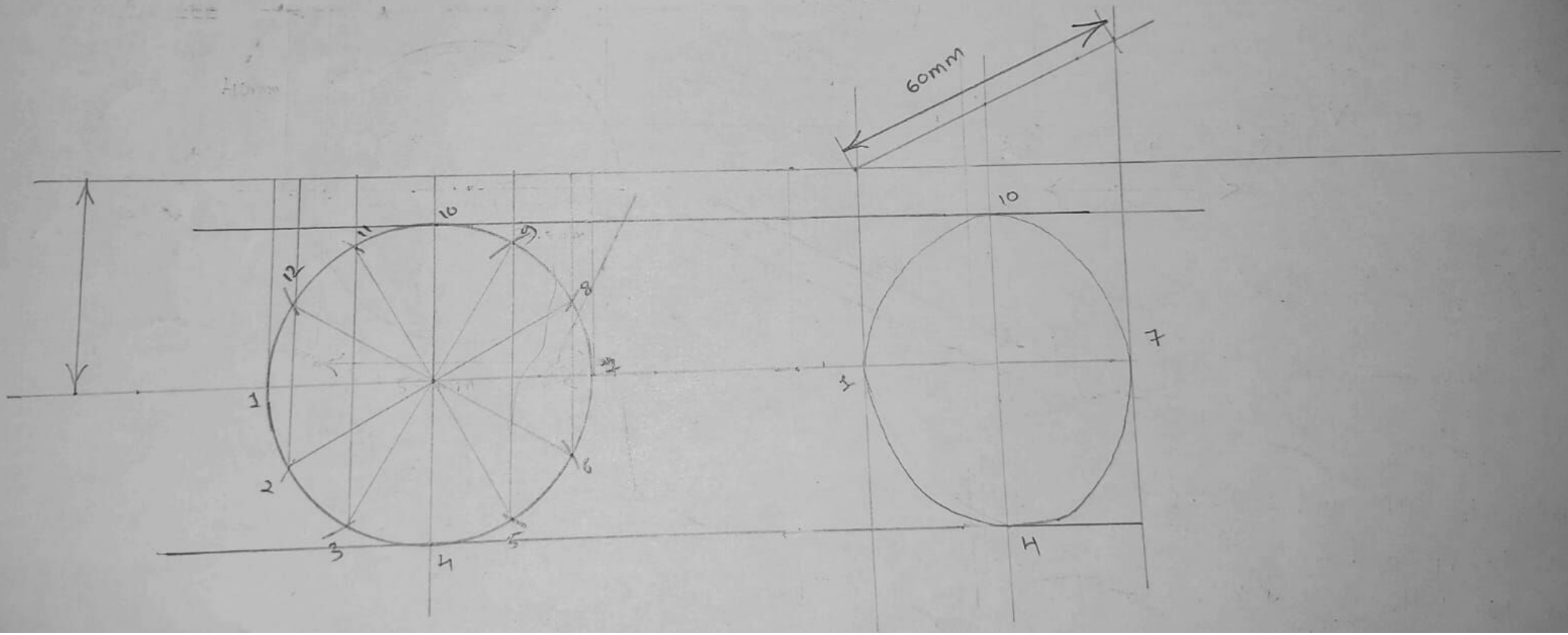


~~b/o~~ ~~the~~ ~~plane~~ ~~and~~ ~~line~~

plane is inclined at an angle.

(a) Inclined to HP and ⊥ to VP
(b) Inclined to VP and ⊥ to HP
(c) Inclined to both HP and VP.

Point of circumference of the circular plate is on the H.P. and inclined 25° to the H.P. and diameter of circular plate is 60mm, and centre of circular plate 40 mm in front of V.P.



Projection of Cylinder

(a) Cylinder is ⊥ to both the plane (Solid).

(b) Cylinder is ⊥ to one plane and ∥ to another plane.

i) Cylinder is ⊥ to HP and ∥ to VP.

ii) cylinder is ∥ to HP and ⊥ to VP.

(c) Cylinder is inclined to one plane and ⊥ or ∥ to another plane

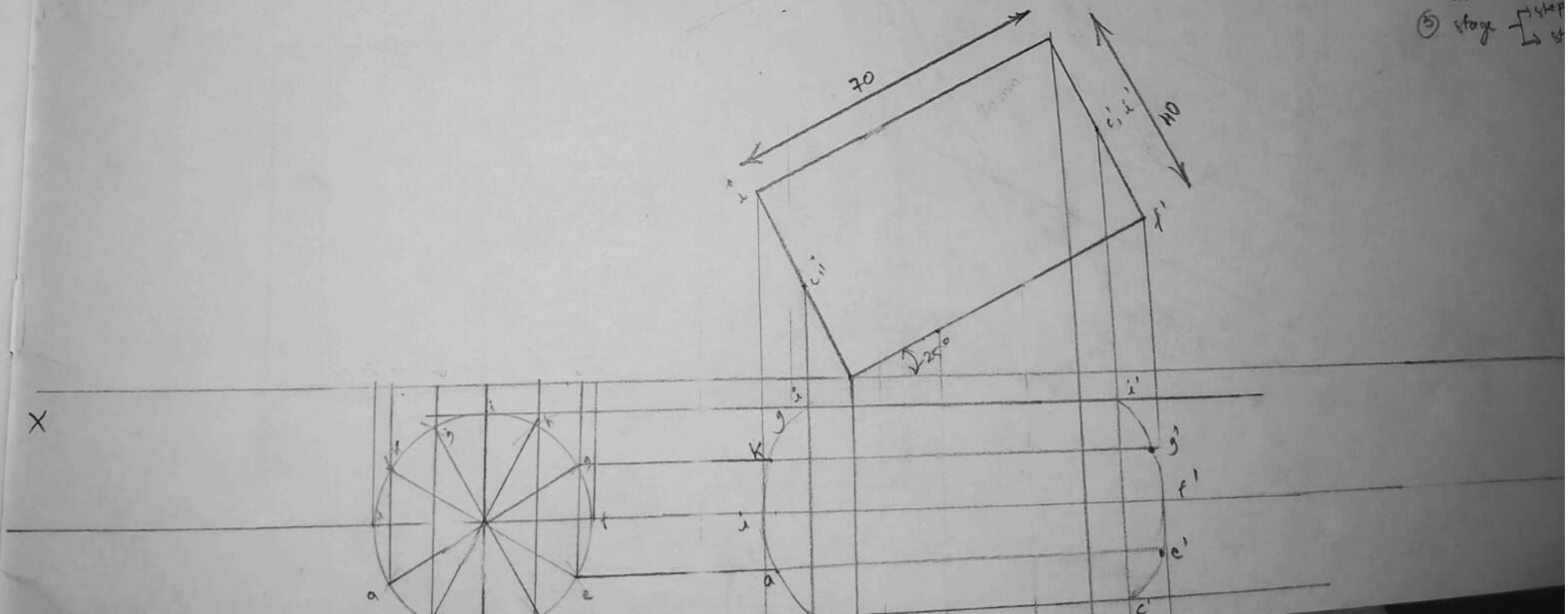
(a) Cylinder is ⊥ to VP and inclined to HP.

(b) Cylinder is ⊥ to HP and inclined to VP,

(d) Cylinder is inclined to both the plane.

Ques. Point of circumfrance of bottom of cylinder is on the HP and diameter of cylinder is 40 mm and axis of cylelender is 70 mm and ~~parallel~~ 25° inclined to HP and ∥ to the V.P. draw the projection of the cylender.

① kind of object ?
② Position of object condition
⑤ stage → step



Plane Scale :- A plane scale consist of a line divided into suitable number of equal parts which is scale-divided

$$\rightarrow RF = \frac{\text{Drawing length}}{\text{Actual length}} = \frac{1}{100000} = 1:10^5 \quad \text{(Map)}$$

1cm = 1km

Enlarged scale $RL > 1$

Reduced scale $RL < 1$

Plain scale $RL = 1$

$$\text{LOS} = RF \times \text{Length}_{max}$$

(LOS: length of; scale)

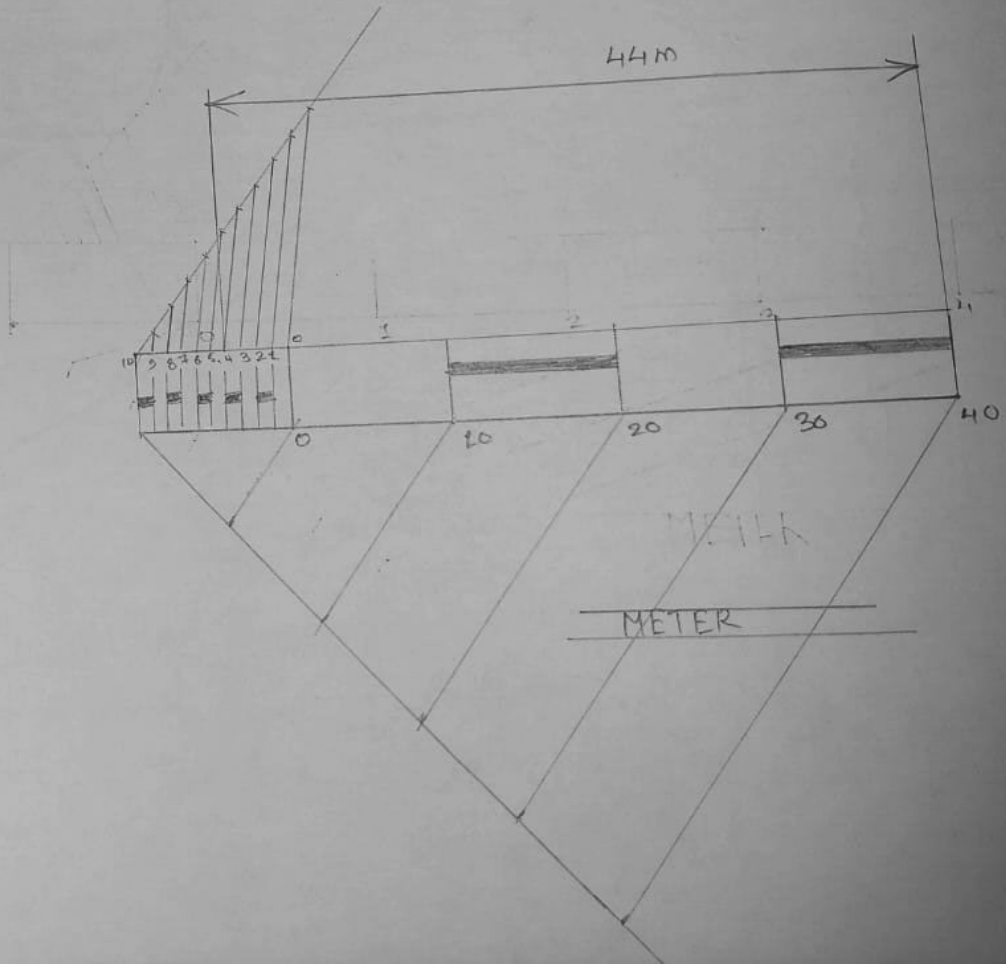
Agrcw of Problem Ques 4.8

$$RF = \frac{1}{400}$$

$L_{max} = 50\ M$

Mark = 44 M

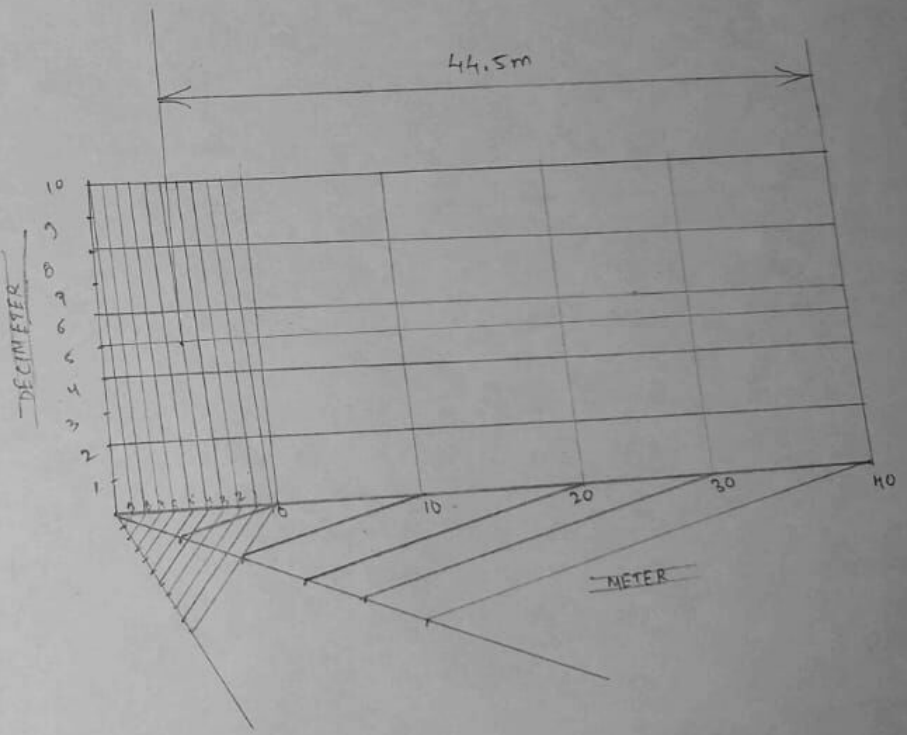
$$LOS = \frac{1}{400} \times 50 \times 100 = 12.5\ cm$$



Problem 4.17

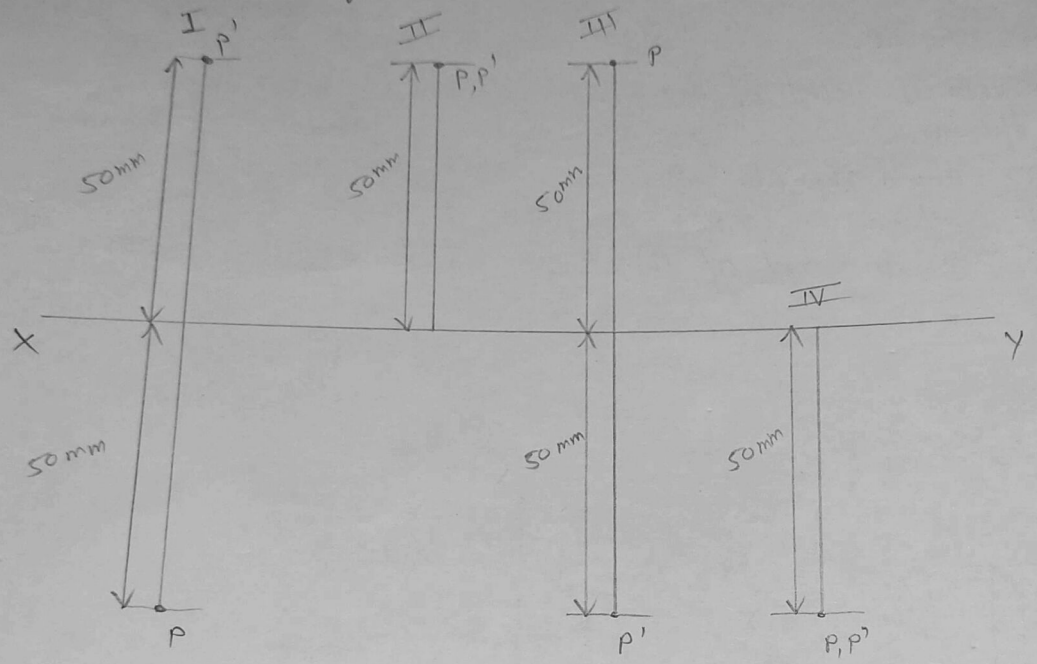
$$RF = \frac{1}{400} = 1:400$$

$$LOS = \frac{1}{400} \times 50 = 12.5\ cm$$



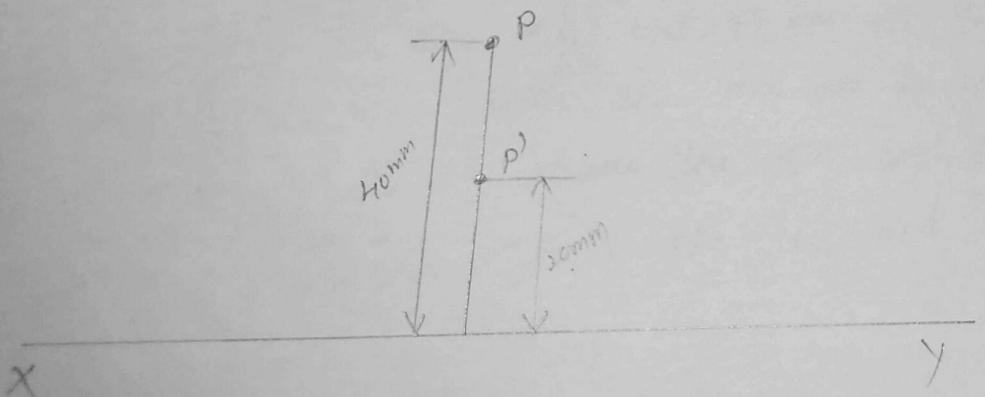
Ex. 9

Que 2 A point P is 50 mm from both the reference planes. Draw its projections in all possible positions



Que 3

Solu (a)



(b)