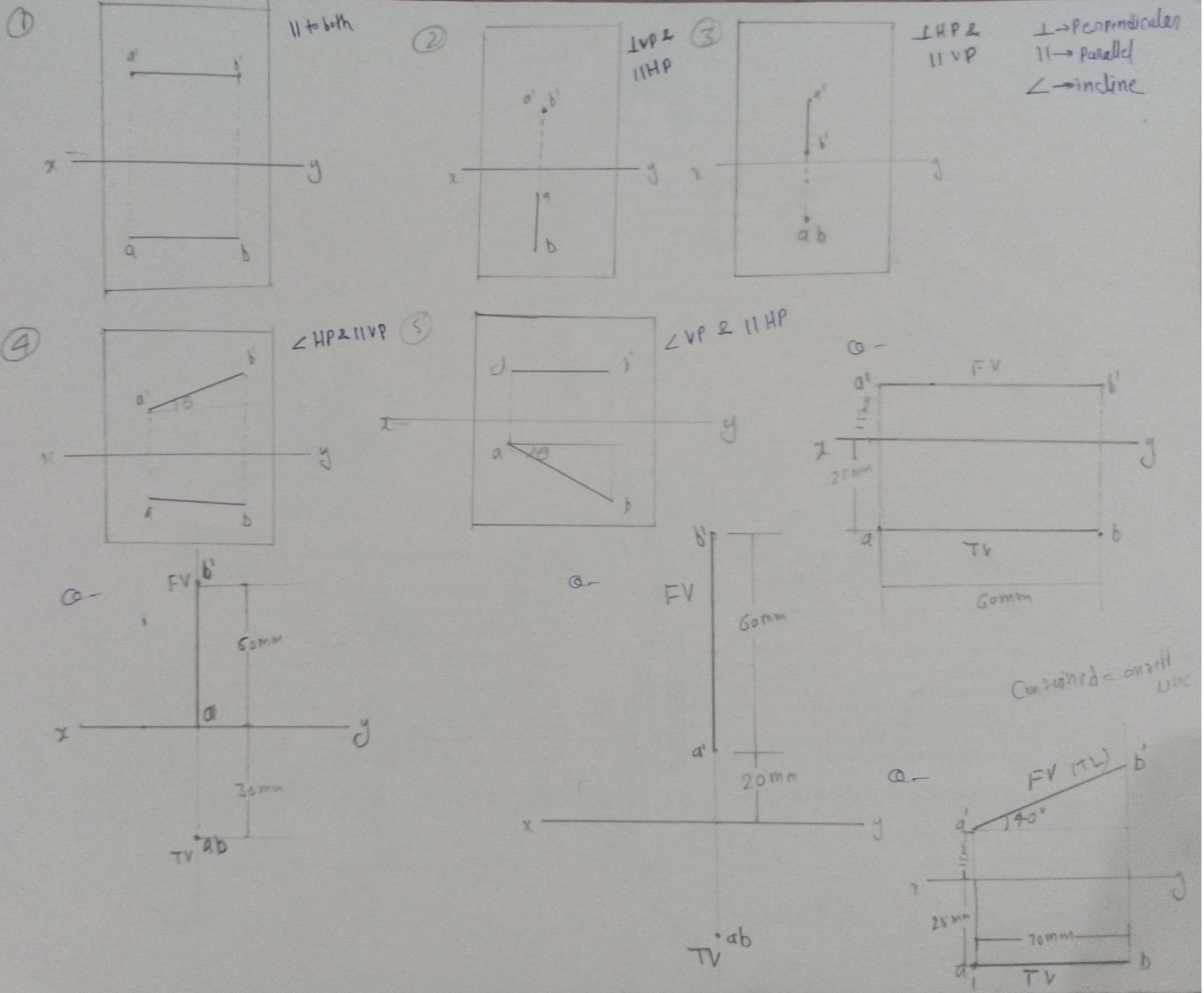

①
|| to both
a'
b'
x
y
a
b
②
⊥ VP & || HP
a'
b'
a
b
③
⊥ HP & || VP
a'
b'
a b
⊥ → Perpendicular
|| → Parallel
∠ → Incline
④
∠ HP & || VP
a'
b'
θ
a
b
⑤
∠ VP & || HP
a
b
θ
Q-
FV
a'
b'
25mm
a
b
TV
60mm
Q-
FV
b'
60mm
a'
20mm
TV
ab
Q-
FV
b'
60mm
a'
30mm
a
TV
ab
Q-
FV (TL)
b'
a'
40°
25mm
70mm
a
b
TV
Contained = overall

Condition of -

TL = True length

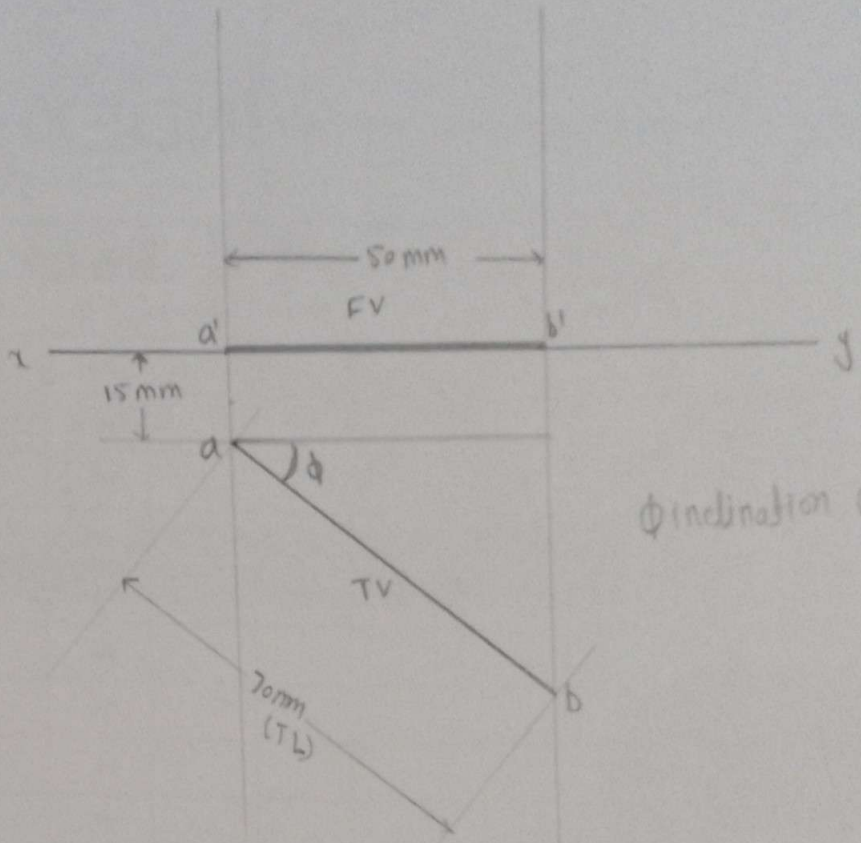
AVP –

⊥ to HP & ∠ to VP

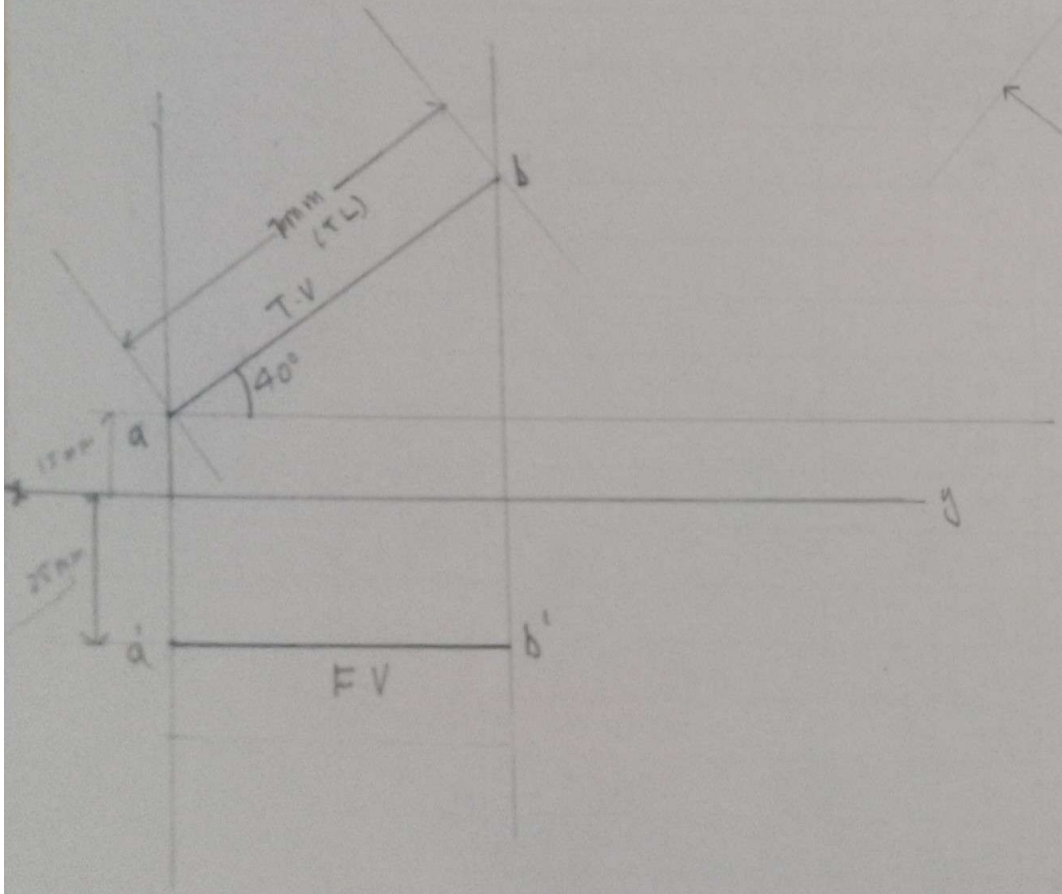
AIP

⊥ to VP & ∠ to HP

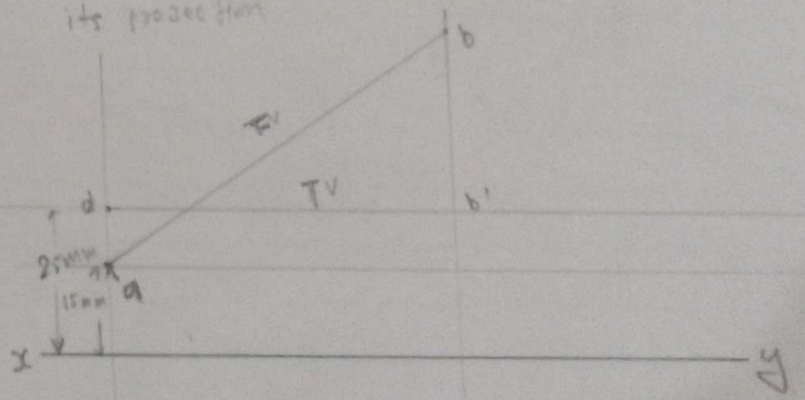
PP – ⊥ to both (VP & HP)



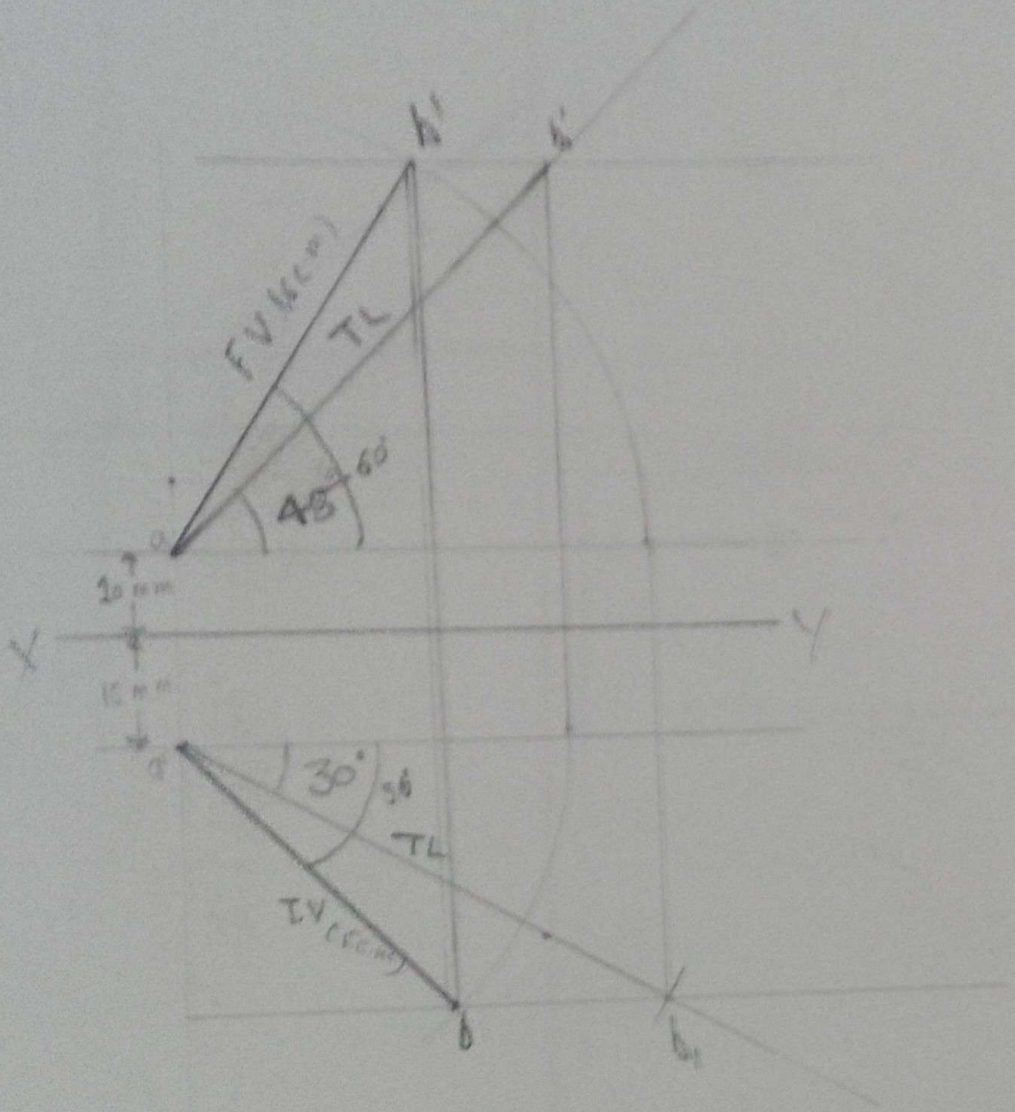
ϕ inclination with VP



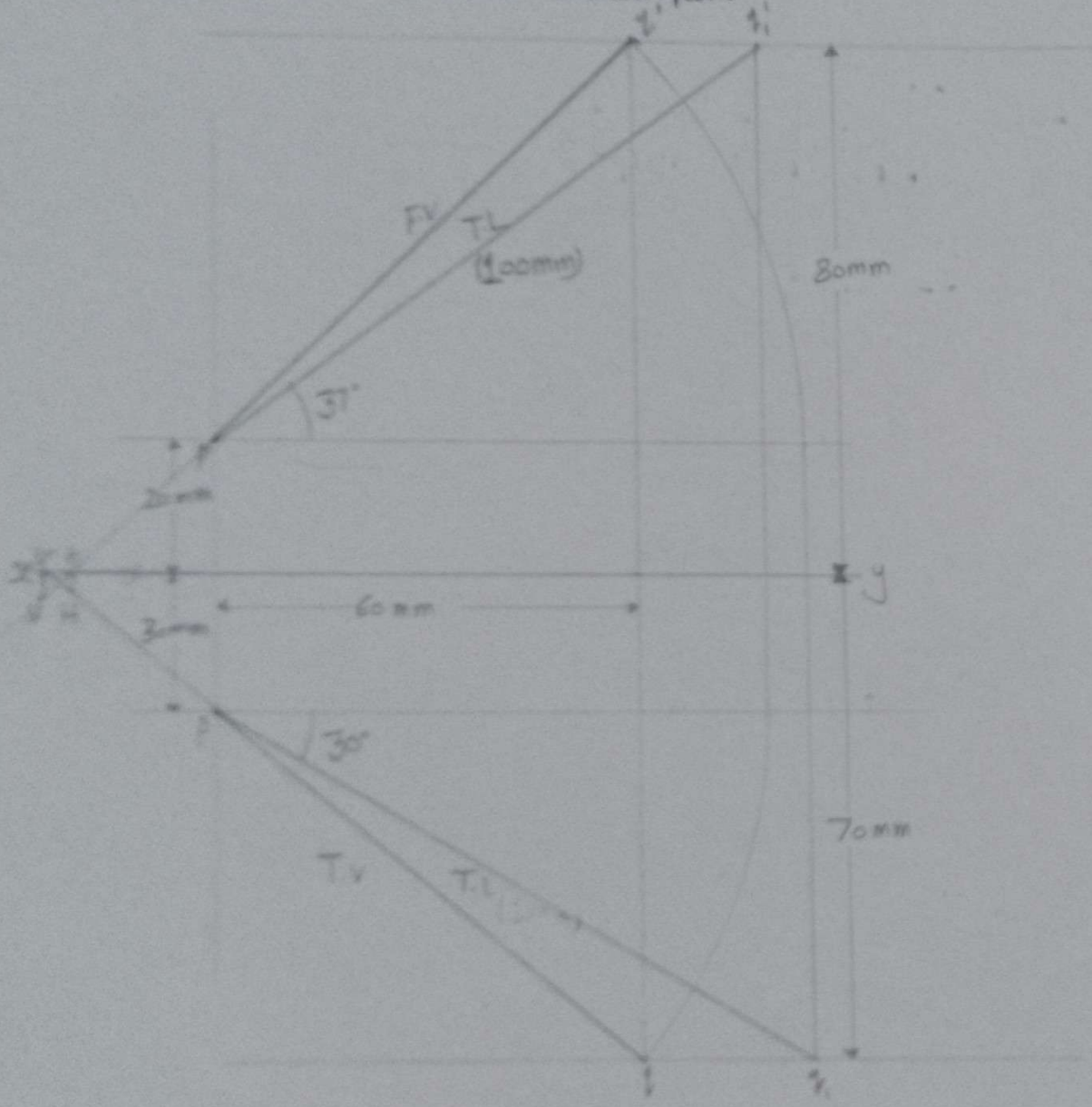
Q- Line AB 70mm long and 40° inclined to VP. It is parallel and 25mm behind VP. If end A is 15mm above HP, draw its projection



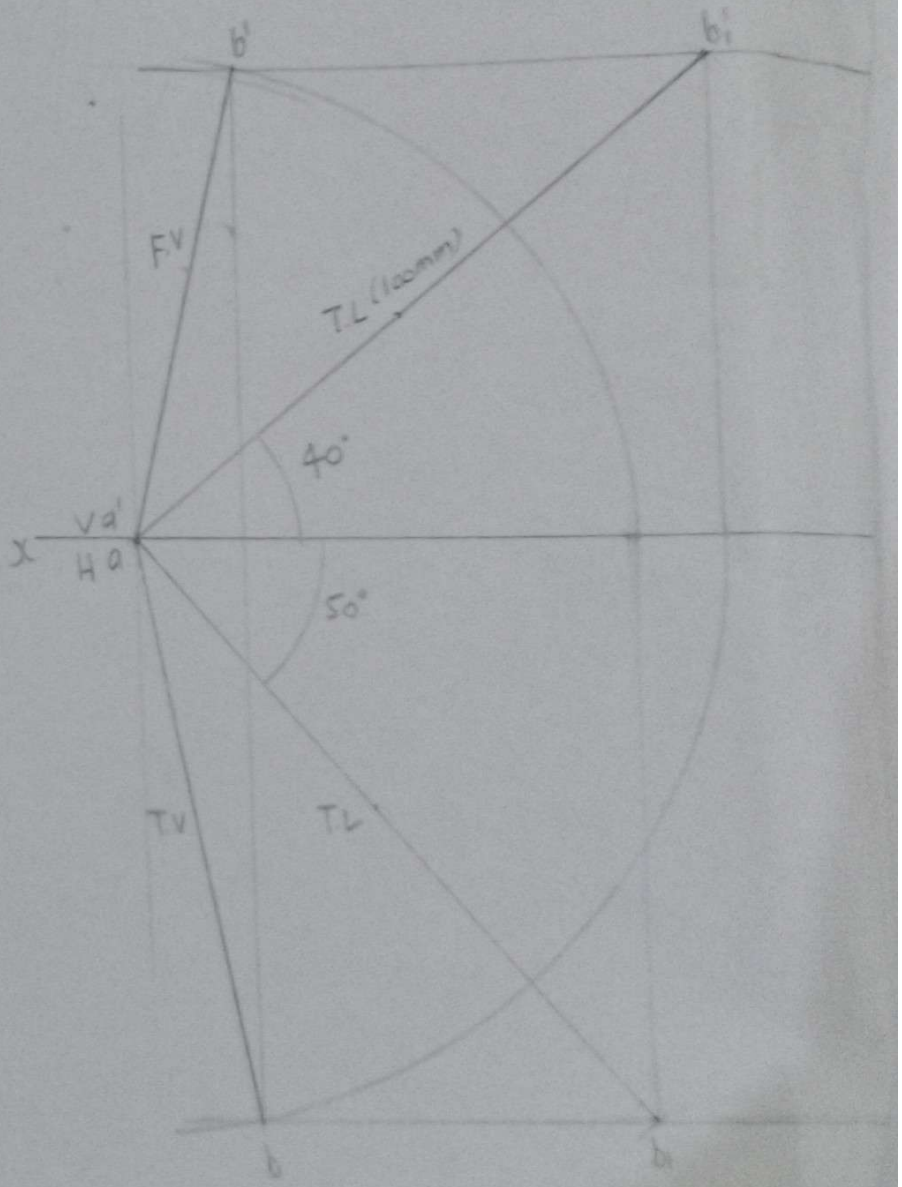
Point A is 30 mm Above HP and 15 mm infront of VP
the Line AB is 70 mm long it is inclined to
VP by 30° and 45° to HP



Q- A straight line PQ has it's end P at 20mm above the H.P and 30 mm infront of V.P. The end Q is 80 mm above H.P and 70 mm infront of V.P. If the end projectors are 60 mm apart. Draw the projections of line. Determine its true length and true inclination with the reference plane.



Q- Draw the projection of straight line AB of 100mm long when one of it's ends is touching the V.P. and the other end touching H.P. The angle of inclination with H.P and V.P are 40° and 50° respectively.

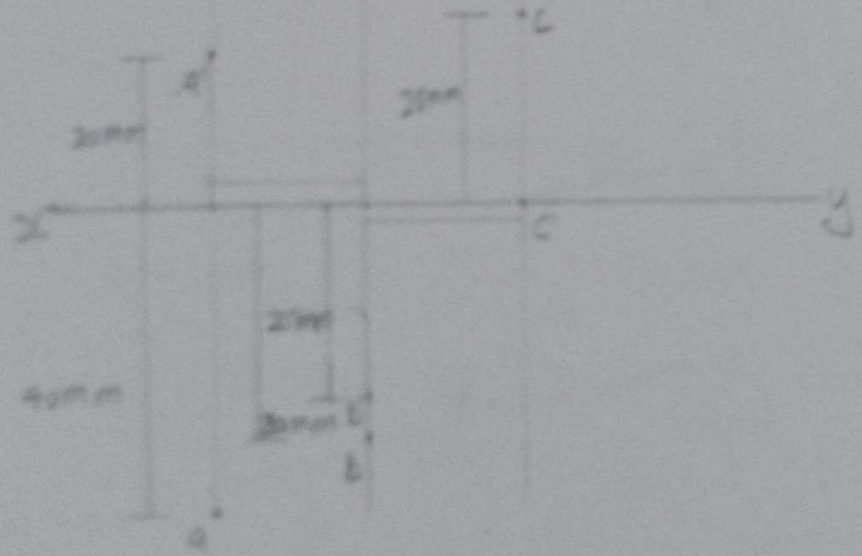


Q- Draw the projection of the following points on the same reference line keeping their projectors 20mm apart

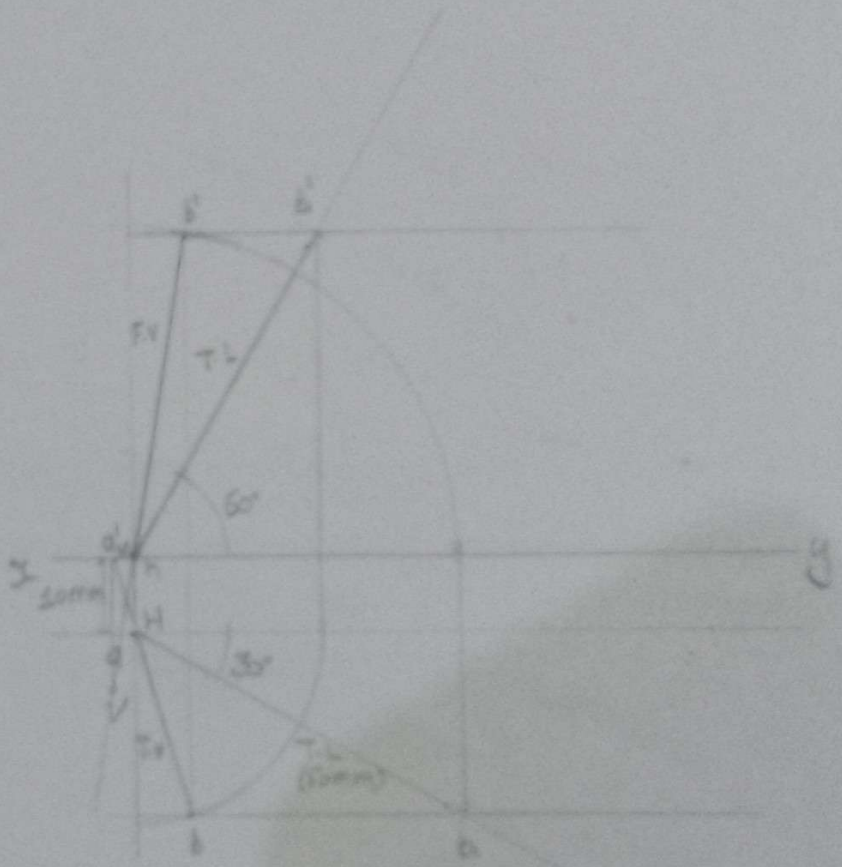
(i) Point A is 20mm above HP and 40mm in front of VP

(ii) Point B is 25mm below HP and 30mm in front of VP

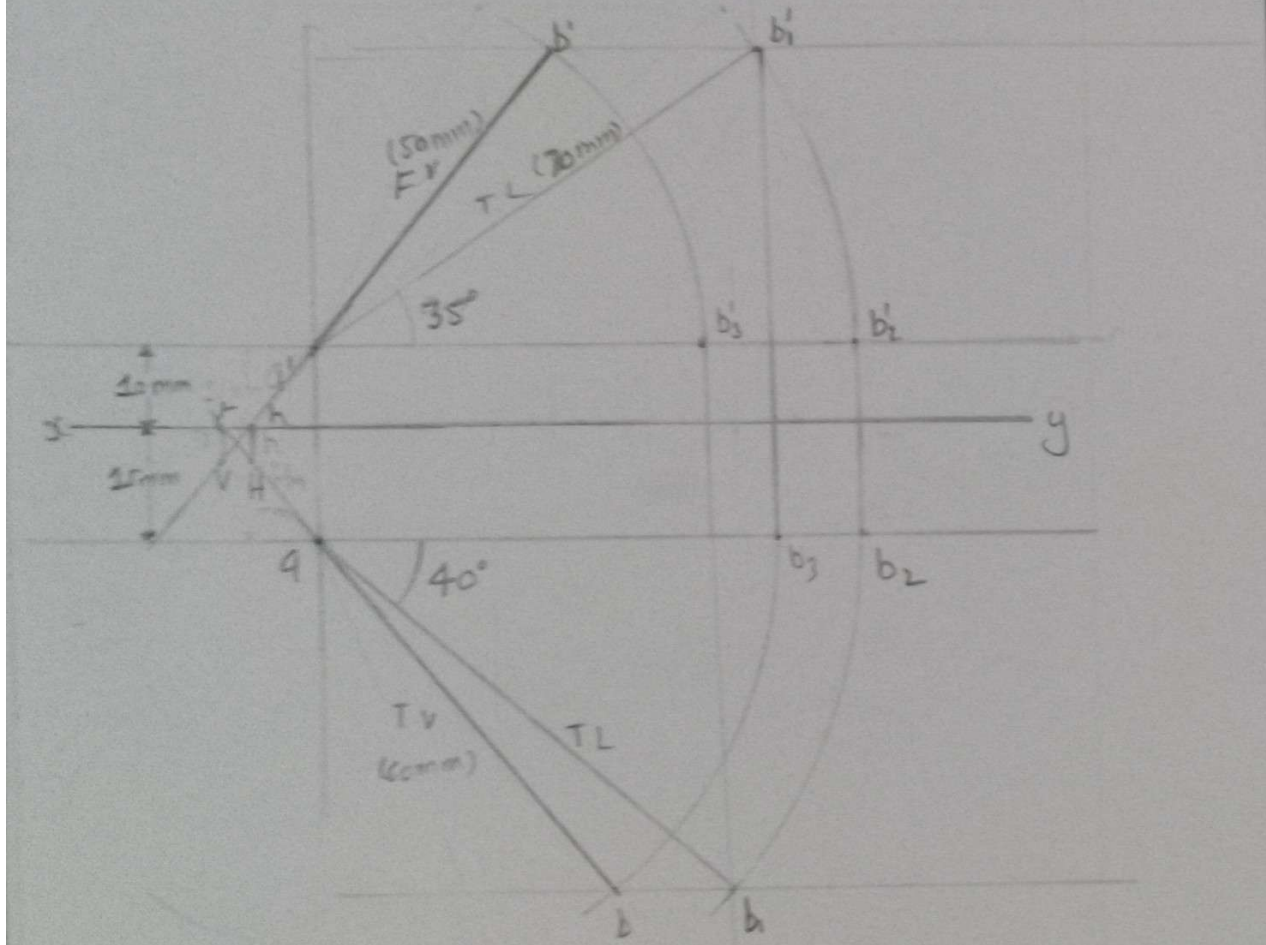
(iii) Point C is in HP and 25mm behind VP (Dec 2016)



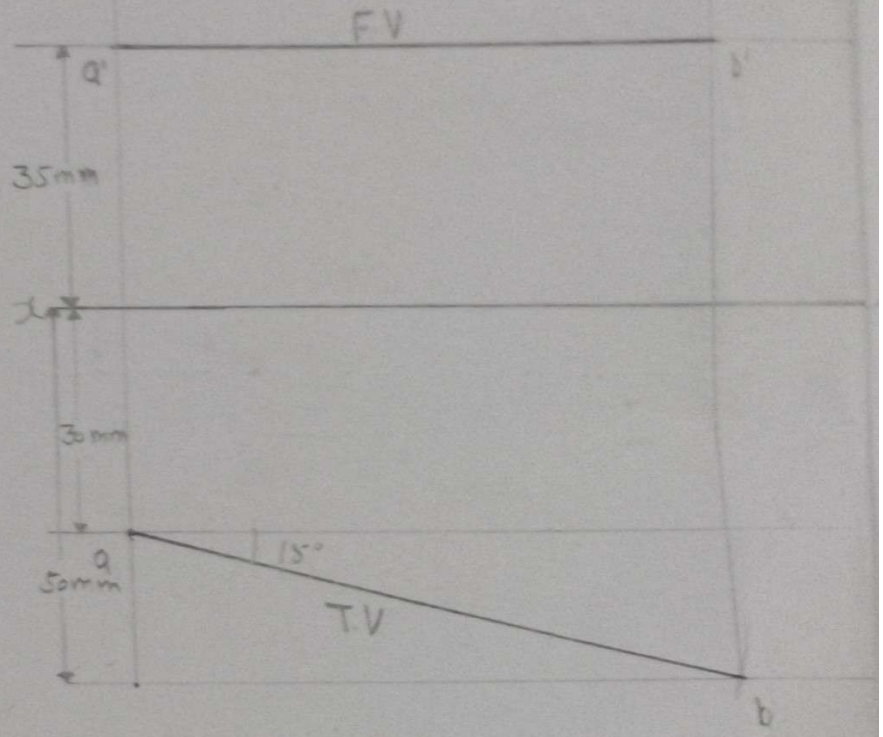
Q- Draw the projection of line AB, whose end A is in HP 10 mm in front of VP. The line makes an angle of 30° with VP and 60° with HP. The line is 50 mm long. (May 2013)



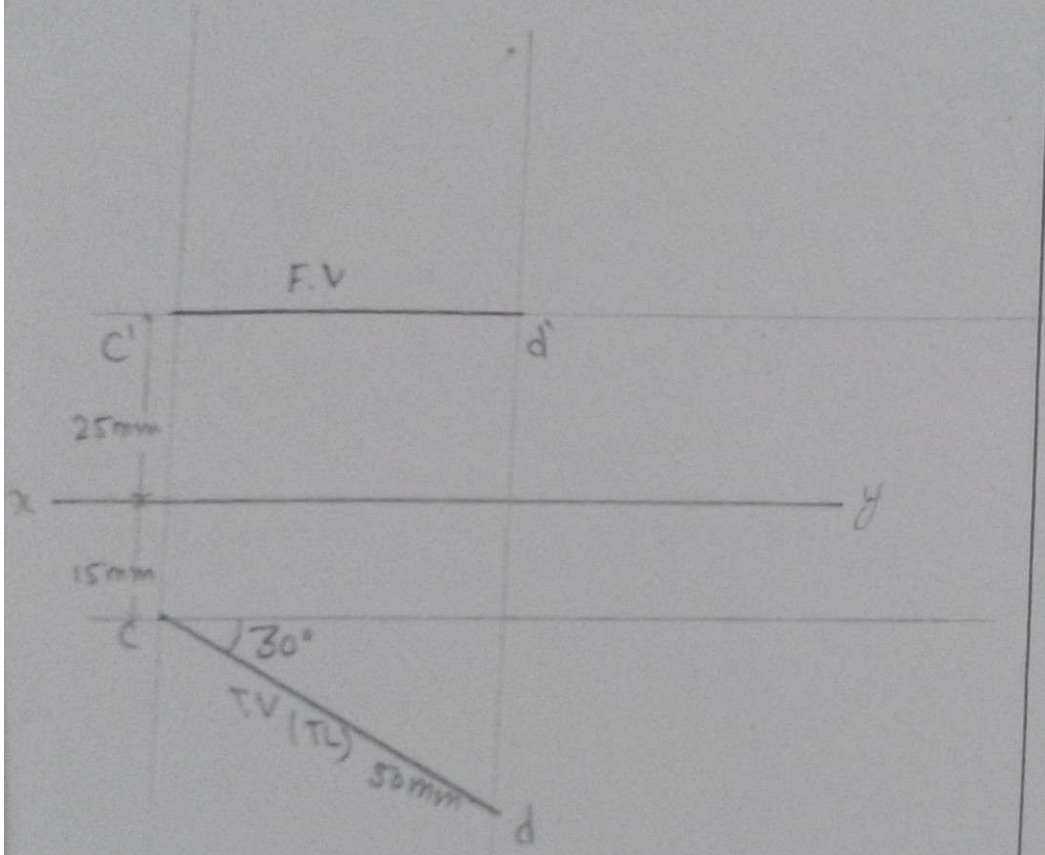
Q- A line AB of 70mm long has its end A at 10mm above H.P. and 15mm in front of V.P. Its front view and top view measures 50 mm and 60 mm respectively. Draw the projection of the line and determine its inclinations with H.P. and V.P. (Jun 2022)



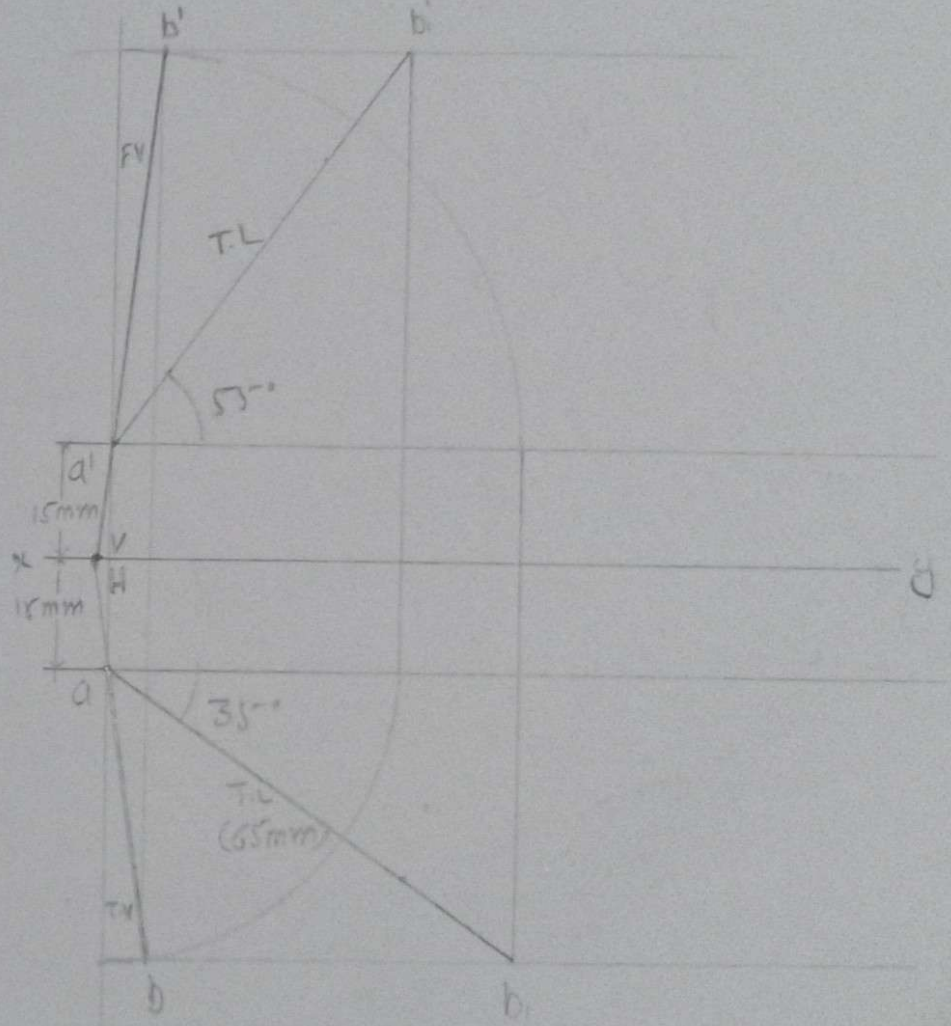
Q- A line AB 80mm long is parallel to and 35mm above H.P. its ends are 30mm and 50mm in front of the V.P. Draw its projections and determine its inclination with V.P. (Dec 2016)



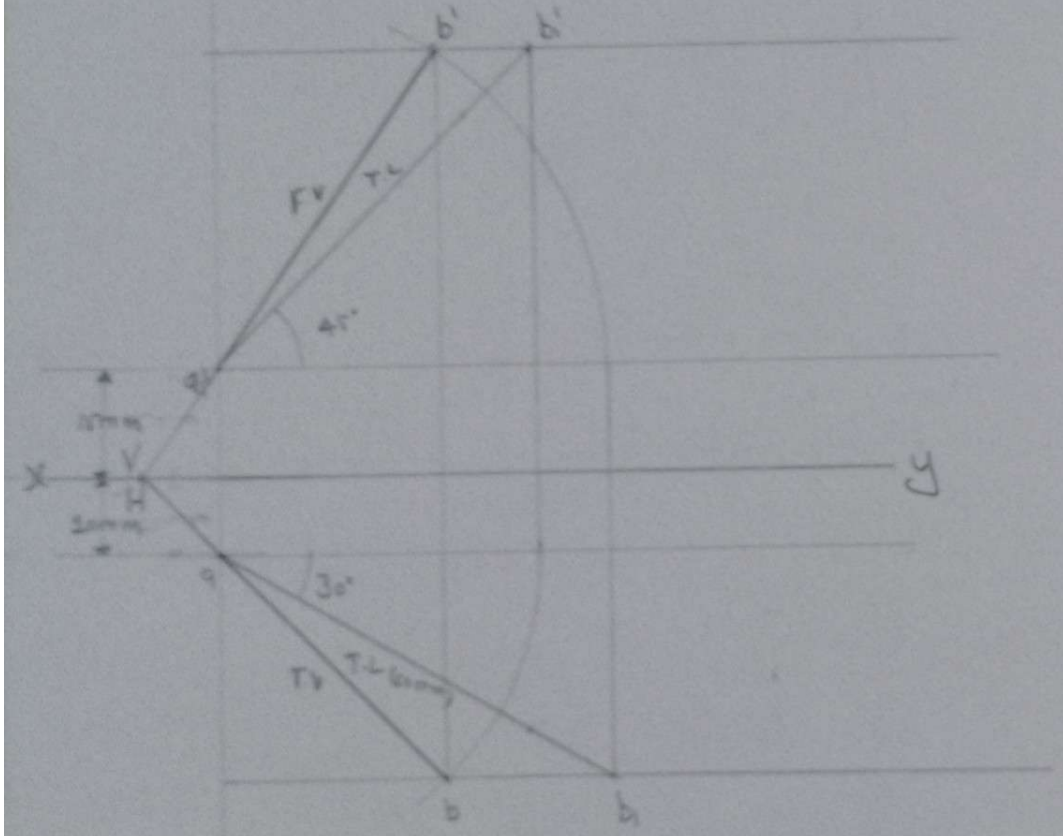
(7) Q- The length of the front view of a line CD which is parallel to HP and inclined 30° to VP is 50 mm. The end C of the line is 15 mm in front of V.P. and 25 mm above the HP. Draw the projection of line and find it true length. (Dec 2022)



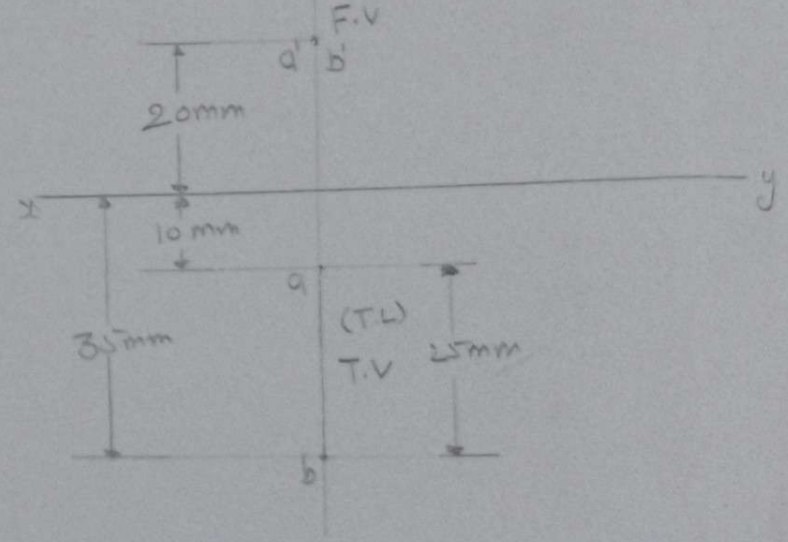
(8) Q- A line AB 65 mm has its end A, 15 mm above the HP and 15 mm in front of the V.P. Its inclined at 55° to the H.P. and 35° to the V.P. Draw its projection. (Dec 2022)



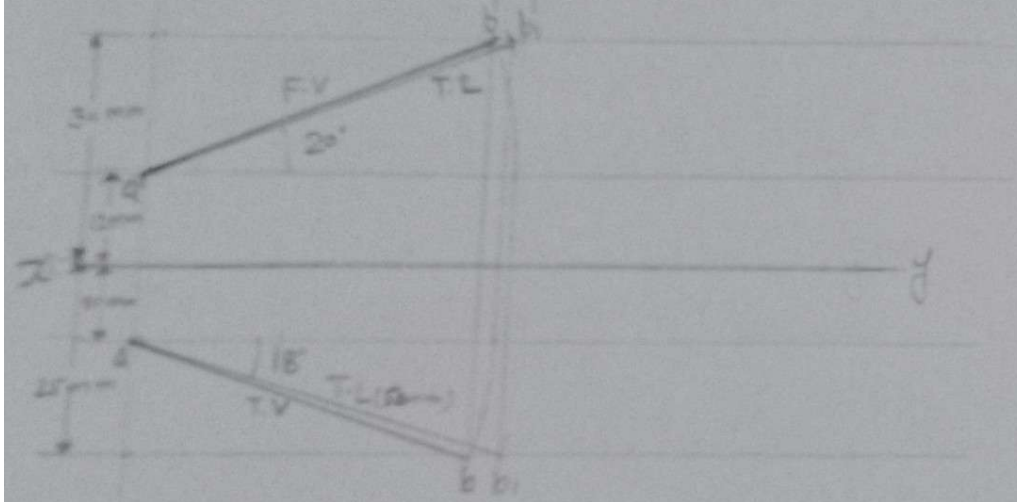
CO- A line AB 60mm long has its end A 15mm above H.P. and 10mm in front of V.P. It is inclined at 45° to the HP and 30° to V.P. Draw its projection. (Jun 2022, Jun 2020)



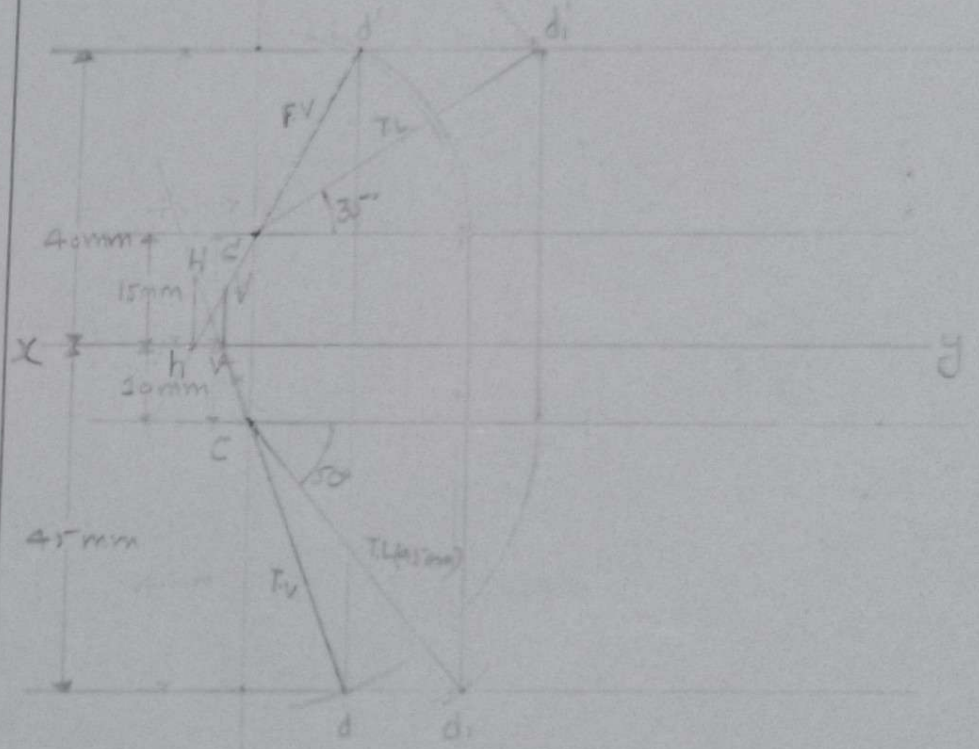
CO- A line AB of 25mm long is perpendicular to the V.P and parallel to the H.P. The end point A and B of line are 10mm and 35mm in front of V.P respectively. The line is 20mm above the H.P. Draw its projection. (Dec 2020)



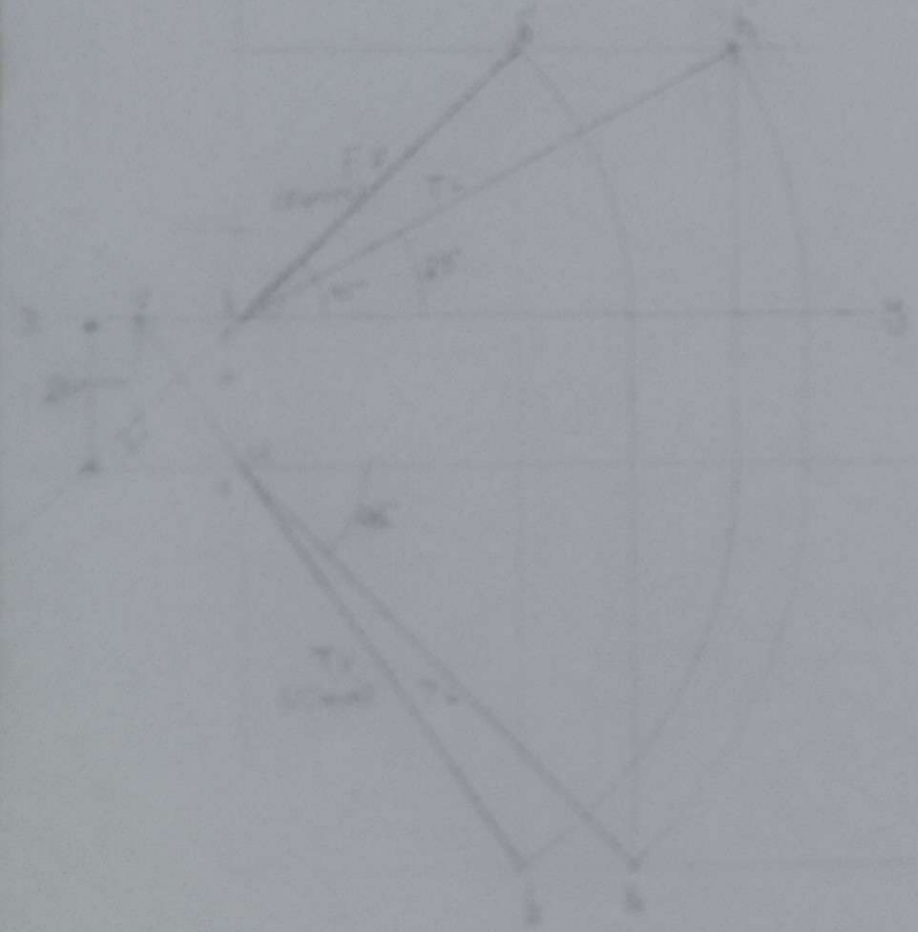
Q- A line AB, 50 mm long has end A 12 mm above H.P. and 10 mm in front of V.P. The end B is 30 mm above HP and 25 mm infront of V.P. Draw the Projection of line (May 2019)



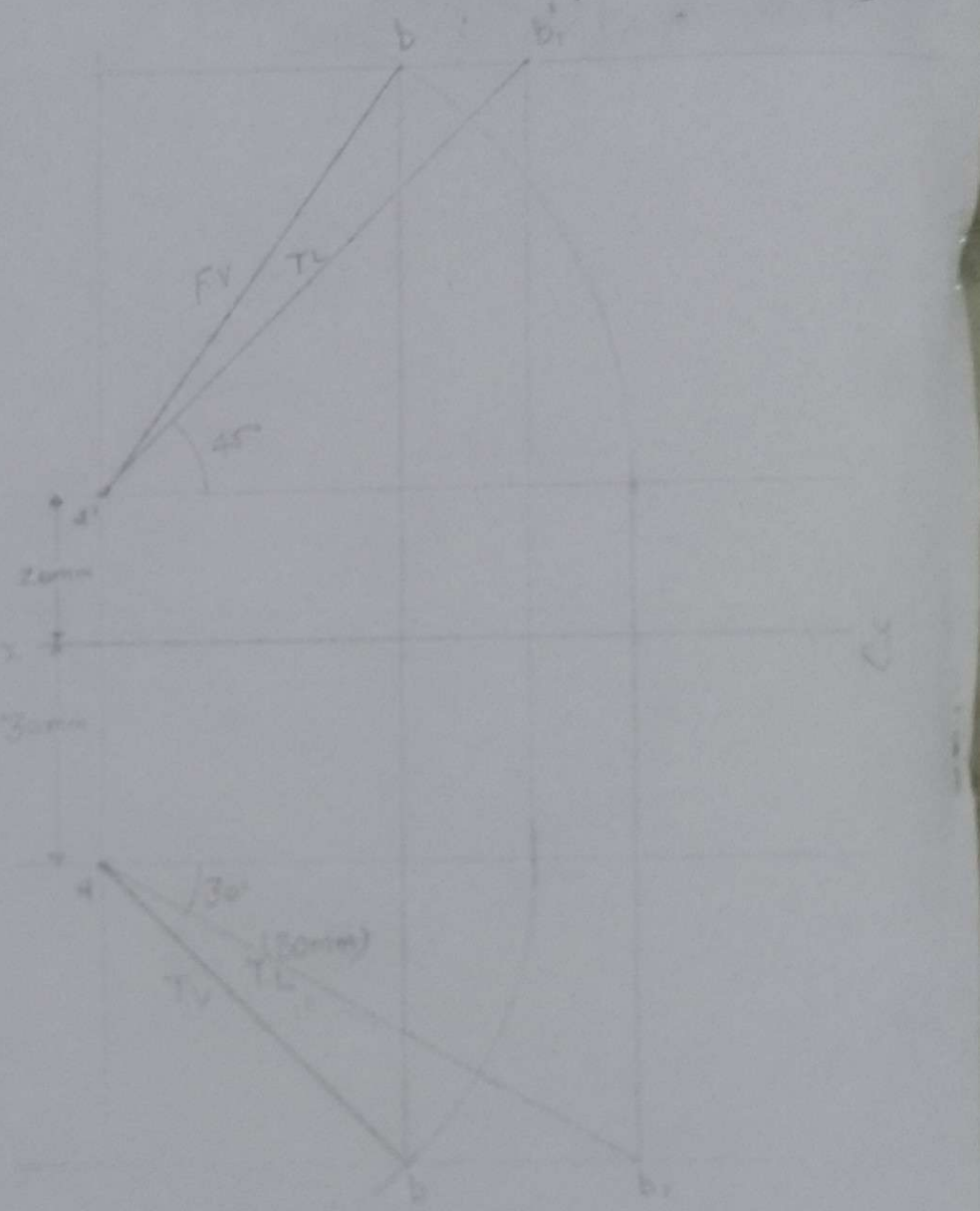
CO- A line CD, 45 mm long, has its end C 15 mm above HP and 10 mm in front of V.P. End D is 40 mm above HP and 45 mm infront of V.P Draw the ~~inclination and~~ projection and find its inclination. (NOV 2018)



Q- The front view and top view of straight line AB measures 50mm and 55 respectively. Point A is in the H.P. and 20 mm in front of VP and front view of the line is inclined at 45° to the reference line. Determine the true length of AB, true angle of inclination with reference planes and its traces (June 2013, June 2016)



Q- A line AB 80 mm long is inclined at an angle of 30° to the HP and 45° to VP. The point A is 20mm above HP and 30mm in front of VP. Draw the projection so the straight line. (Dec 2013)



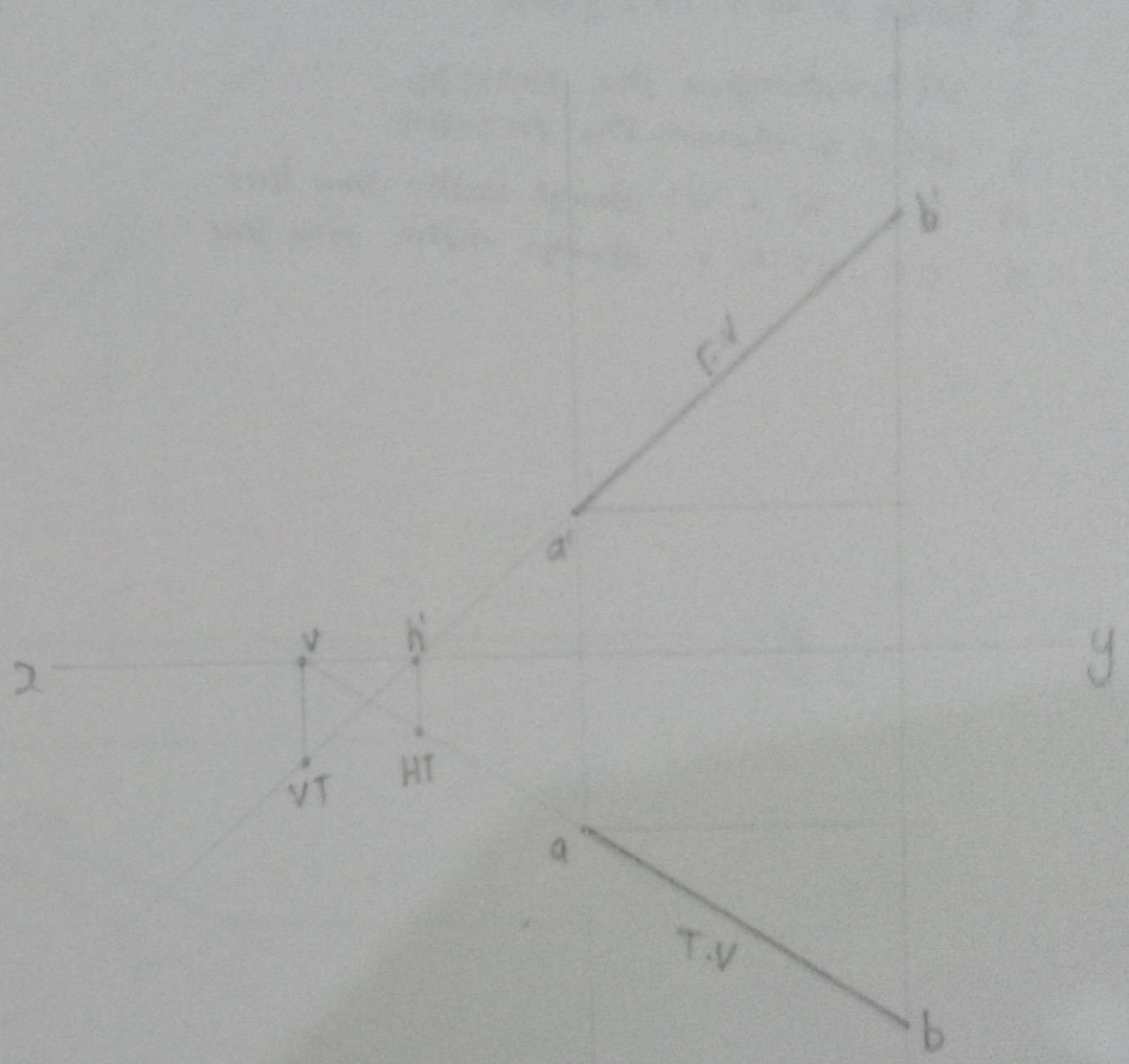
Traces (HT & VT)

Steps to Locate HT

1. Begin with F.V Extend FV up to xy line.
2. Name this point h'
   (as is a FV of a point in HP)
3. Draw one projector from h'
4. Now extend TV to meet this projector
   This point is HT

Step to Locate VT

1. Begin with TV Extend TV up to xy line
2. Name this point v
   (as it is a TV of a point in VP)
3. Draw th projector from v
4. Now extend F.V to meet this projector
   This point is VT



Observation note

1 Points h' & v on x-y line

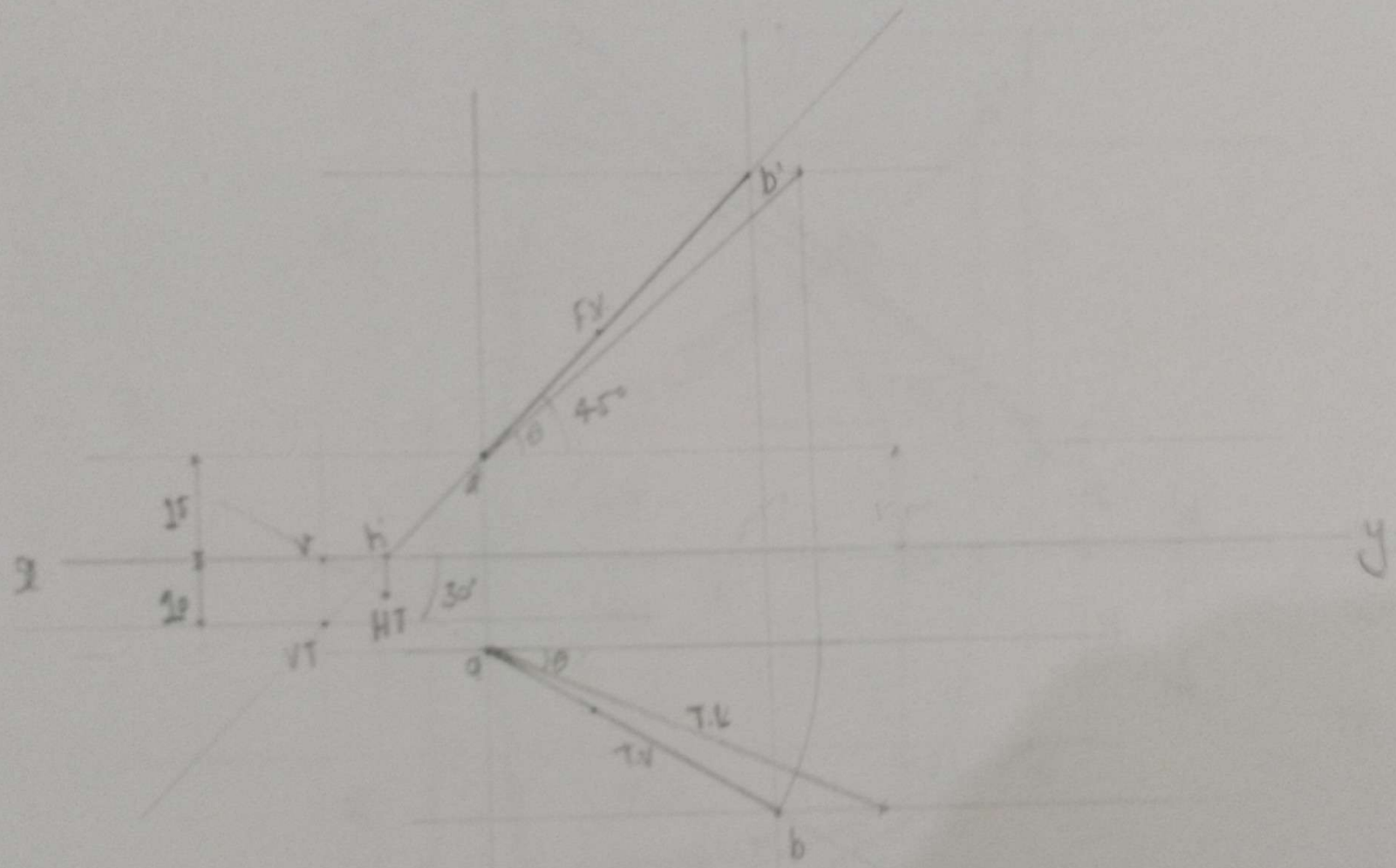
2 VT & v always on the projector

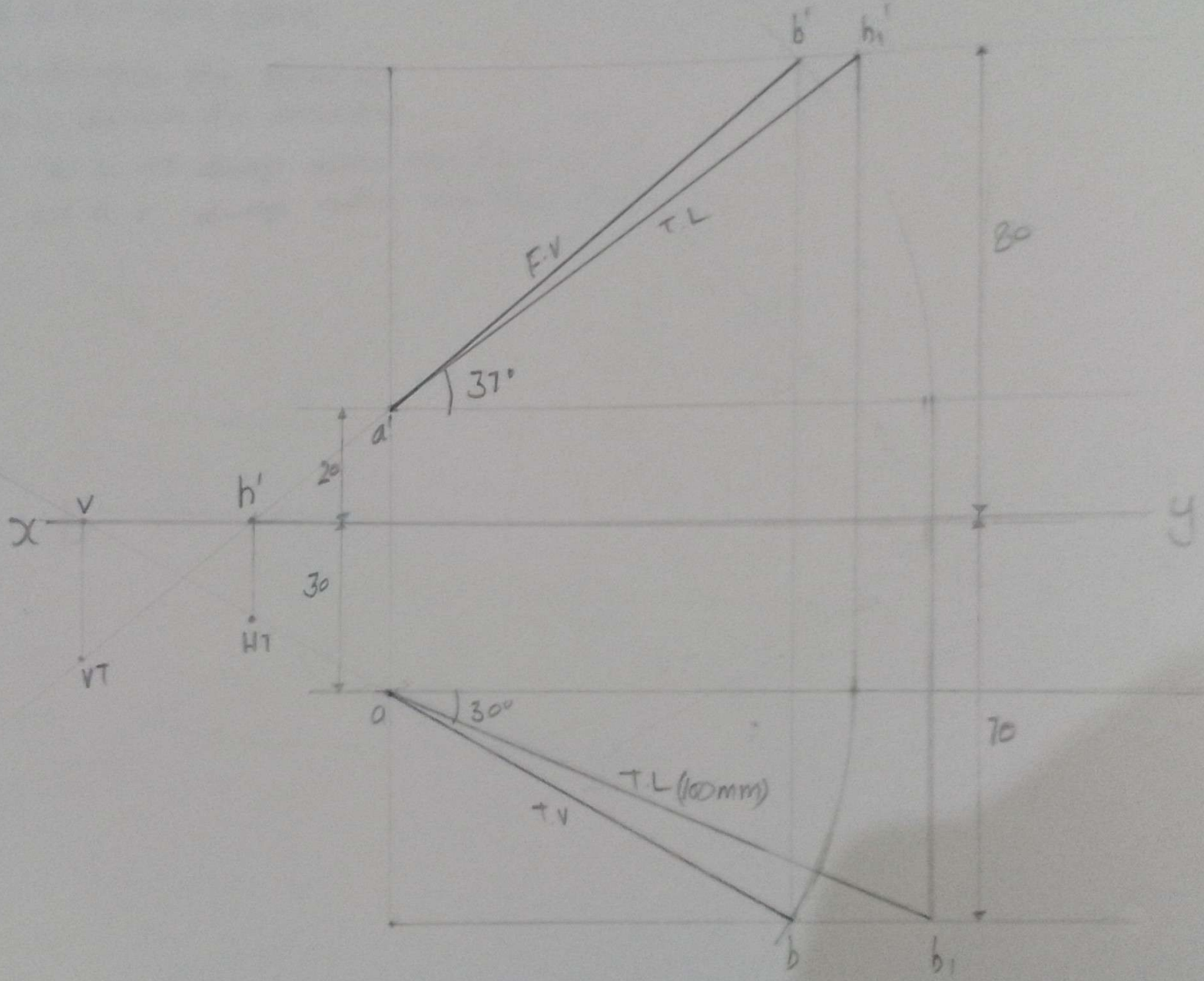
3 HT & h' always on the projector

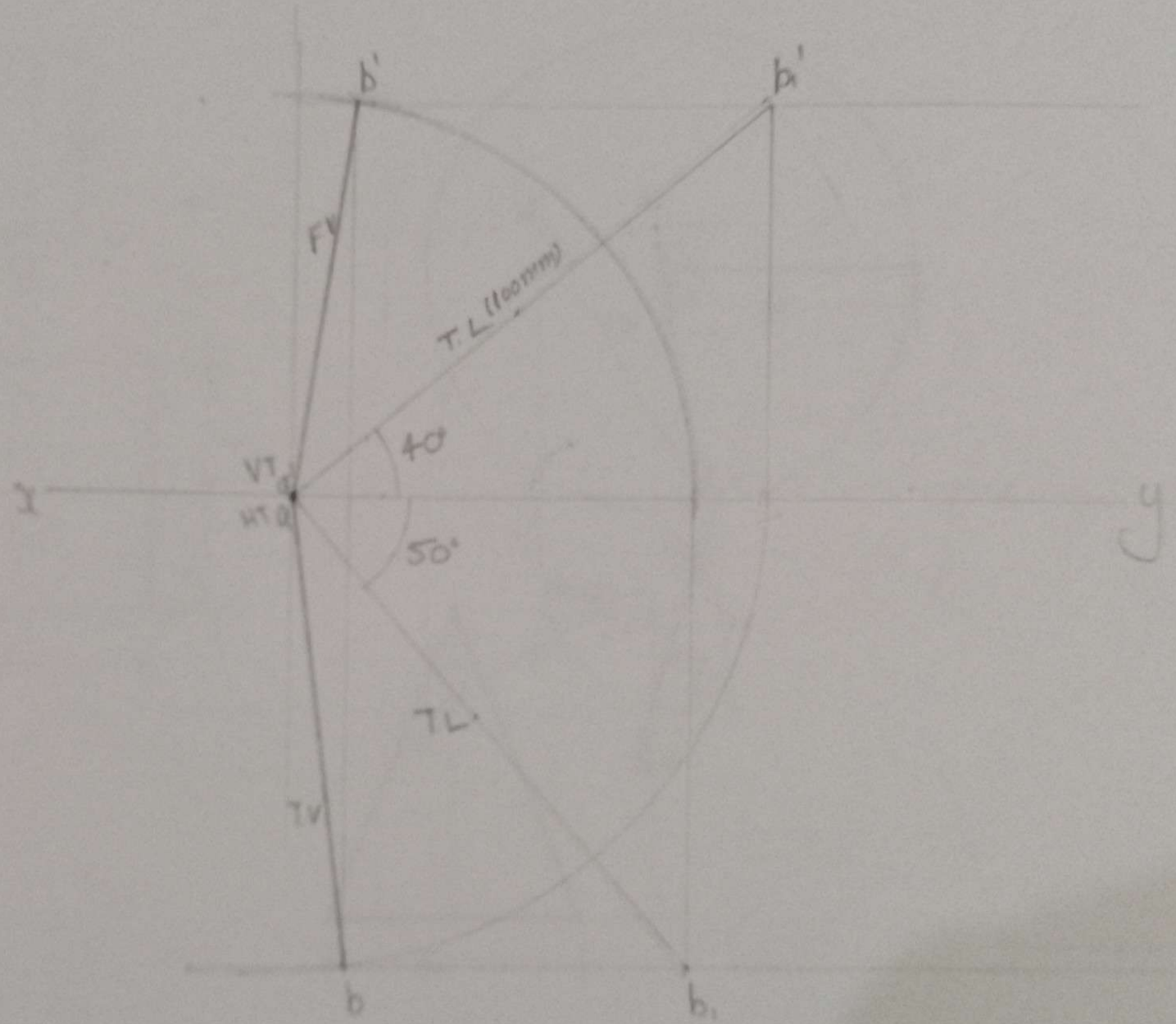
4. F.V., h' & VT always on one same line

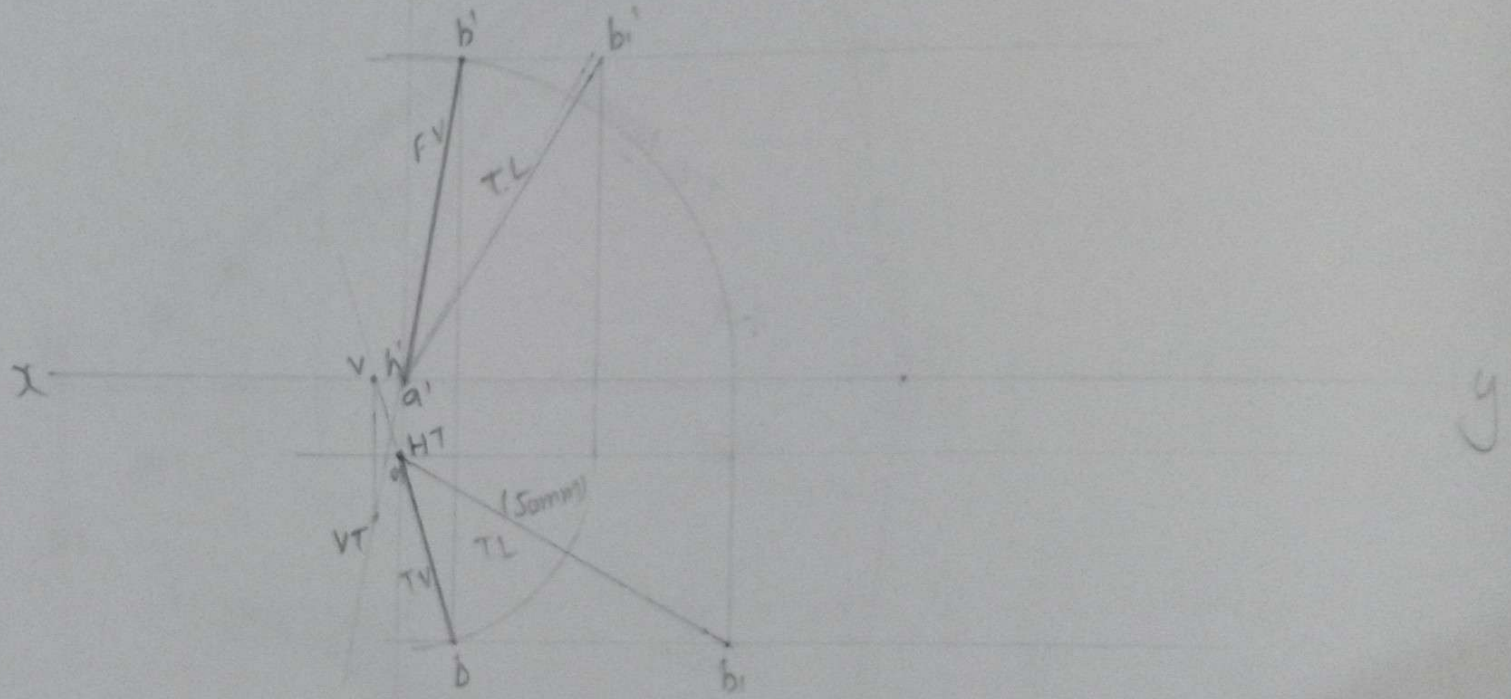
5. T.V, HT & v always on the same line

(6) - F.V of line AB makes 45° angle with XY line and measures 60mm Lines TV makes 30° with XY line and A is 15 mm above HP and its VT is 10 mm below HP. Draw projection of line AB, determine inclination with HP & VP and locate HT, VT.




b'
h1'
F.V
T.L
80
37°
a'
20
h'
V
X
Y
30
HT
VT
O
30°
70
T.L (100mm)
T.V
b
b1


b'
b'
FV
T.L (100mm)
40°
VT
HT
x
y
50°
TL
TV
b
b1


b'
b1'
F.V
T.L
X
V
h'
a'
HT
(Same)
VT'
T.L
T.V
b
b1
Y