Key points for projection of LINES

LINE Inclined to both the Reference Planes (HP & VP)

- A line inclined to HP with its true length and true inclination ($a'b_1'$) will be seen parallel to VP with its plan length (ab_1). So project true length from FV to TV and rotate this plan length with 'a' as centre on locus of b to get TV of line.
- A line inclined to VP with its true length and true inclination (ab_2) will be seen parallel to HP with its elevation length ($a'b_2'$). So project true length from TV to FV and rotate this elevation length with a' as centre on locus of b' to get FV of line.

Always project true length from one view to another.

Always rotate Plan length on locus of b & elevation length on locus of b'.

- **True length in FV ($a'b_1'$) makes an angle Θ with HP while FV of line makes an angle α**
- **True length in TV (ab_2) makes an angle Φ with VP while TV of line makes an angle β**
- **Front view length Or Elevation length = a'b' = $a'b_2'$ with (points a', b_2' on same horizontal line)**
- **Top view length Or plan length = ab = ab_1 with (points a, b_1 on same horizontal line)**

IMP

****For location of Horizontal Trace (HT)**

Intersection of line with Horizontal plane

i)Extend FV of line till if intersect with XY line, name the point as h'

ii)Mark a line perpendicular through this point till it intersect with TV of line or its extension.

iii)Name that point as HT

****For location of Vertical Trace (VT)**

Intersection of line with Vertical plane

i)Extend TV of line till if intersect with XY line, name the point as v

ii)Mark a line perpendicular through this point till it intersect with FV of line or its extension.

iii)Name that point as VT