Engineering Surveying
3rd Stage
Tacheometry

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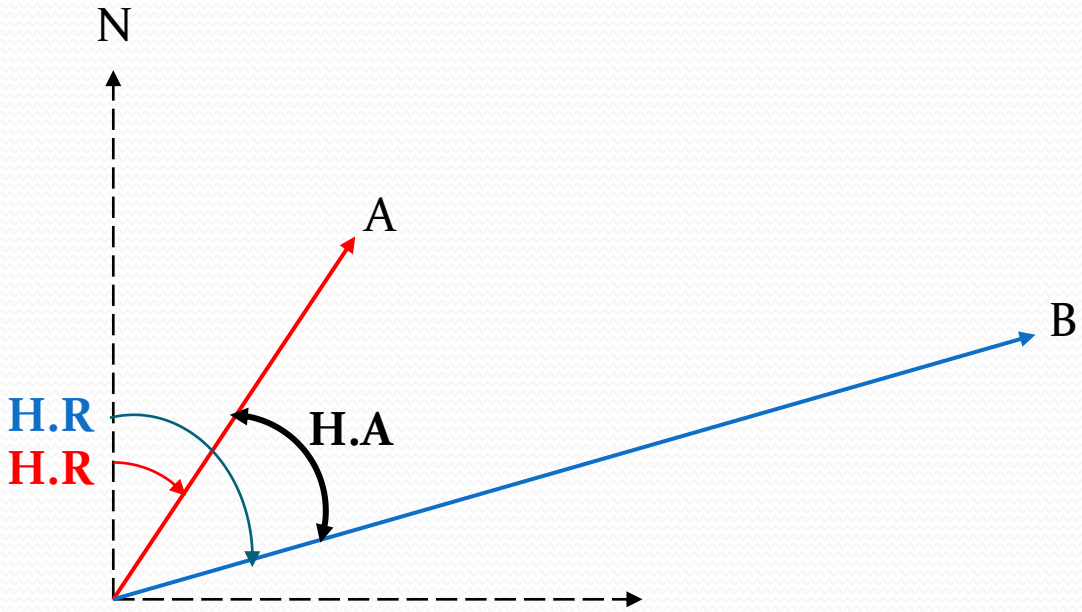
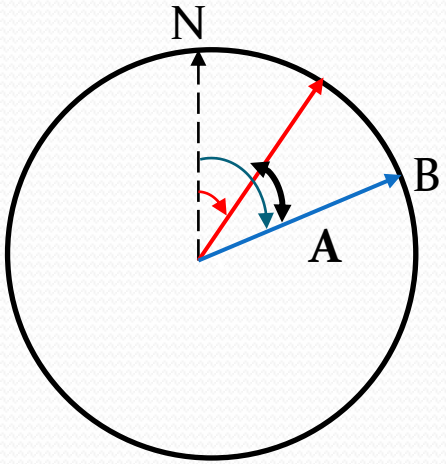
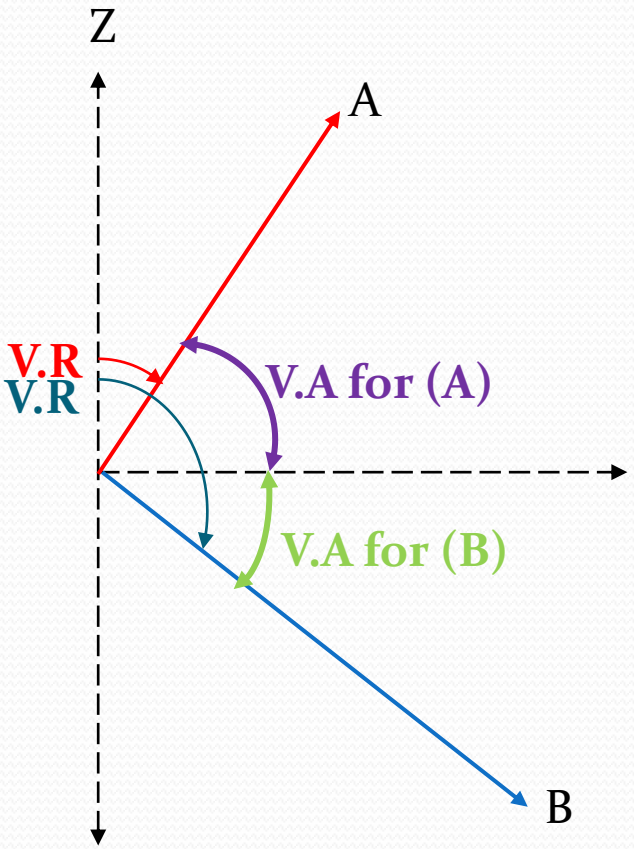
Lecture NO.4

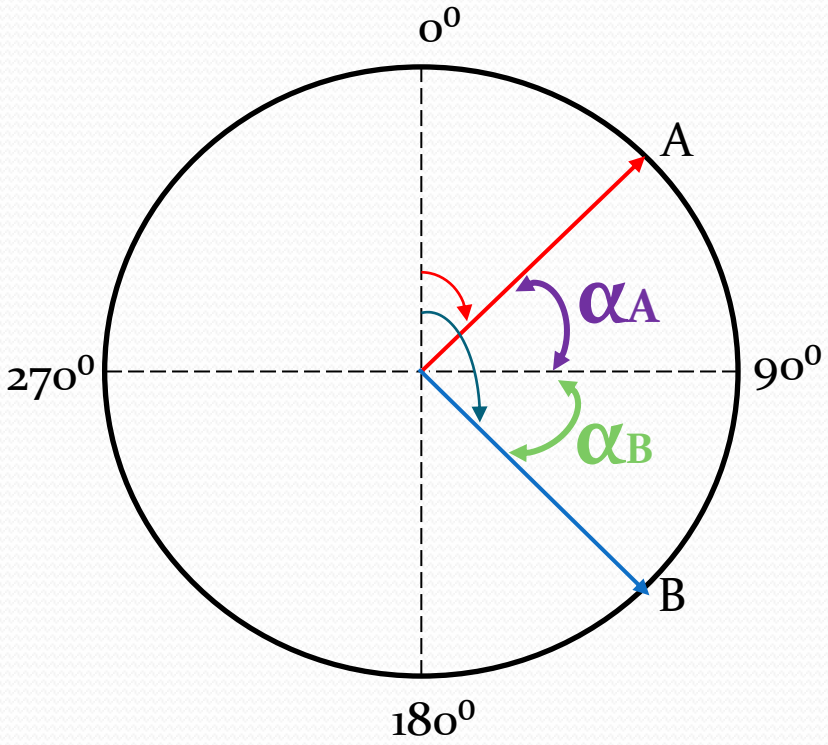
Horizontal Reading & Horizontal Angle





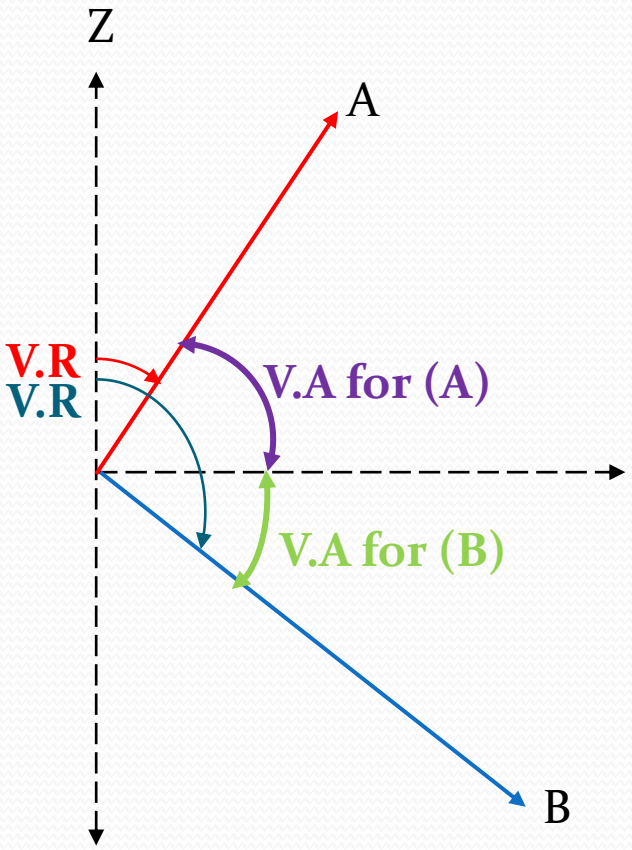
Vertical Reading & Vertical Angle

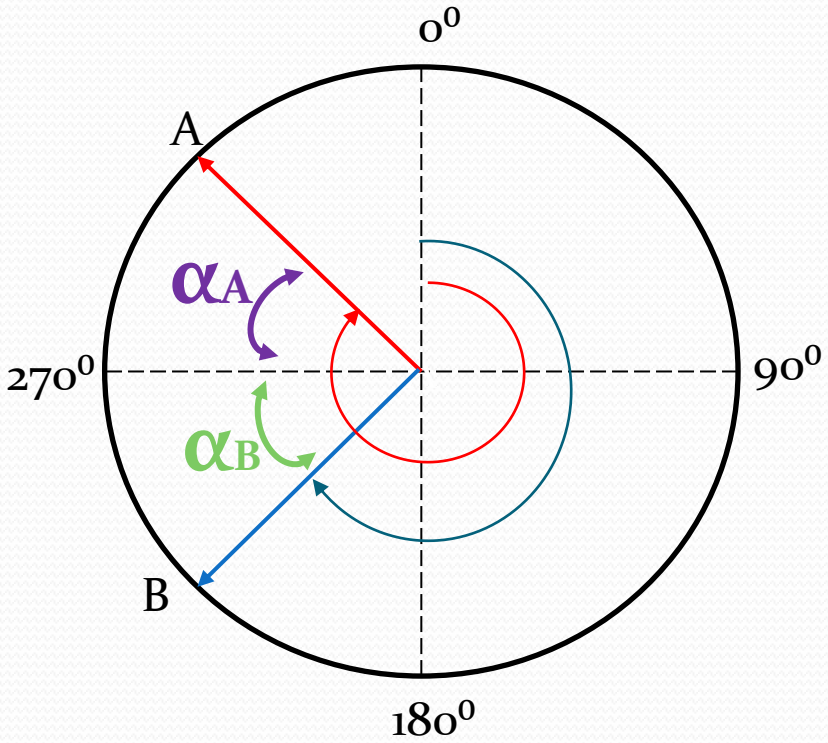




$$V.A = \alpha = 90^0 - V.R$$

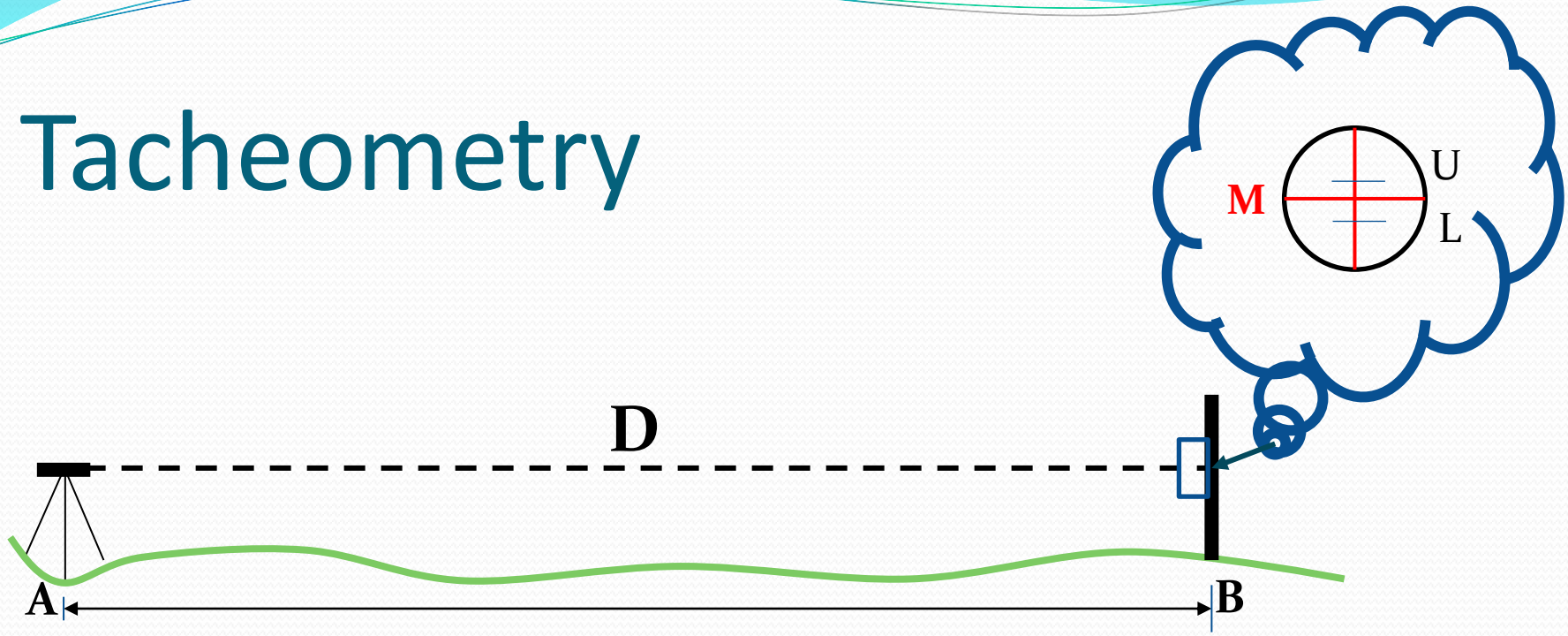
Vertical Reading & Vertical Angle





$$V.A = \alpha = V.R - 270^0$$

Tacheometry

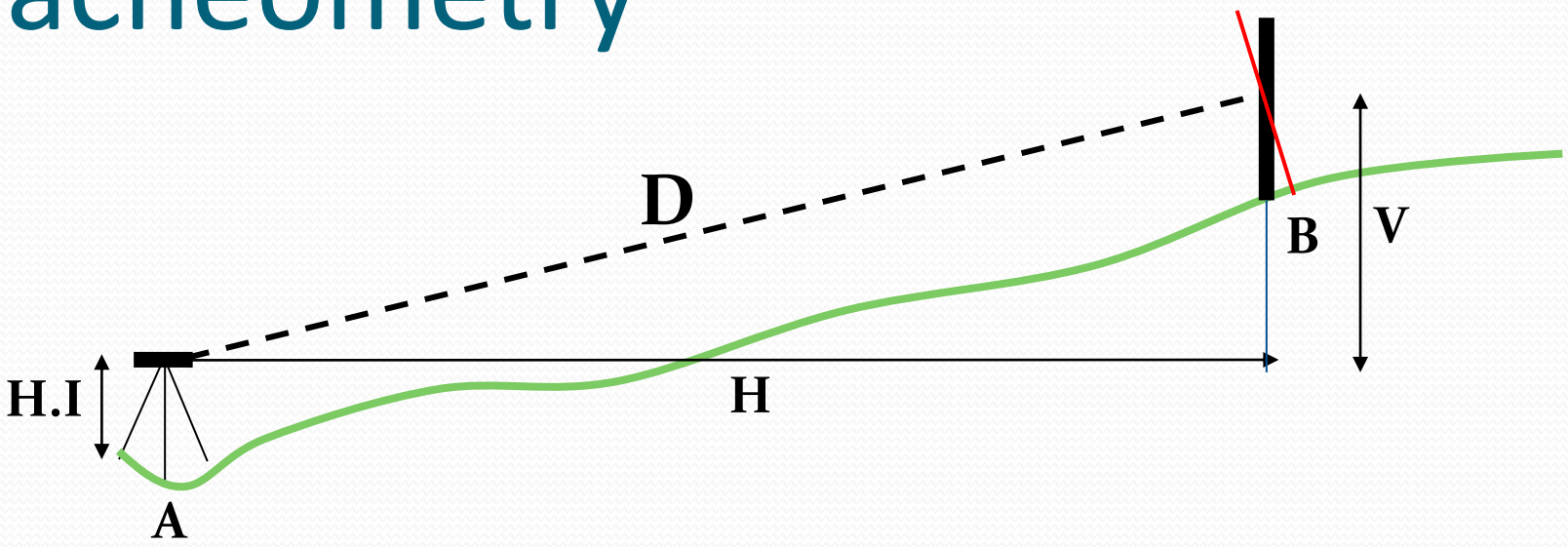


S= U-L

K= 100

D= K*S

Tacheometry



S= U-L

K= 100

D= K*S* cos ∝

Tacheometry

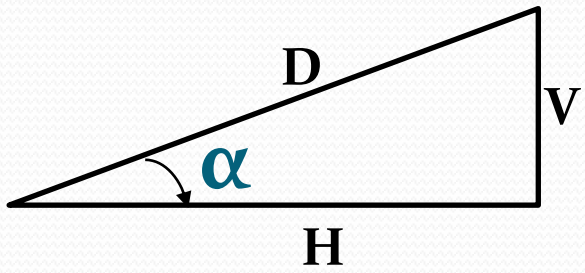
$$\sin \propto = V/D$$

$$V = \sin \propto * D$$

$$V = \sin \propto * (\mathbf{K}^{*}\mathbf{S}^{*}\ \mathbf{cos} \propto)$$

$$V = \mathbf{K}*\mathbf{S}*\sin \propto * \mathbf{cos} \propto$$

$$V = \mathbf{1/2}*\ \mathbf{K}*\mathbf{S}*\sin 2 \propto$$



Tacheometry

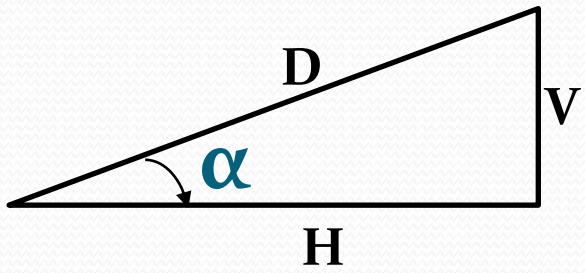
$$\cos \propto = H/D$$

$$\mathrm{H} = \cos \propto * D$$

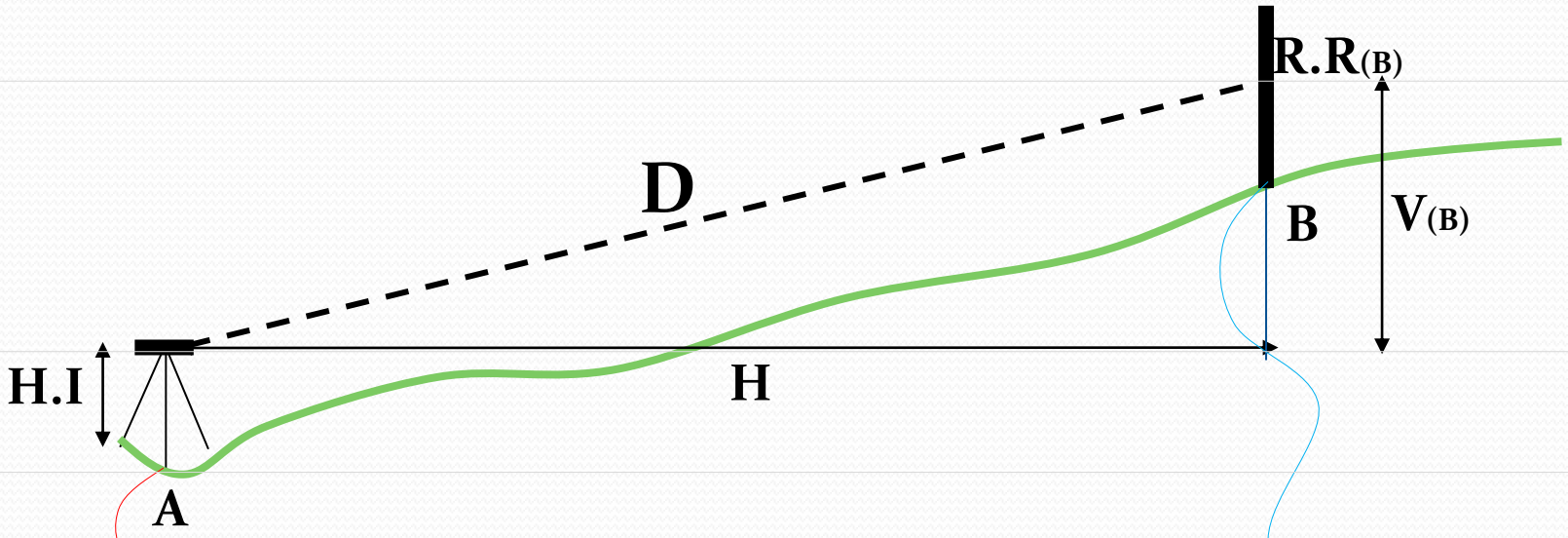
$$\mathrm{H} = \cos \propto * (\mathbf{K} * \mathbf{S} * \mathbf{cos} \propto)$$

$$\mathrm{H} = \mathbf{K} * \mathbf{S} * \mathbf{cos} \propto * \mathbf{cos} \propto$$

$$\mathrm{H} = \mathbf{K} * \mathbf{S} * \mathbf{cos} \propto^{\mathbf{2}}$$



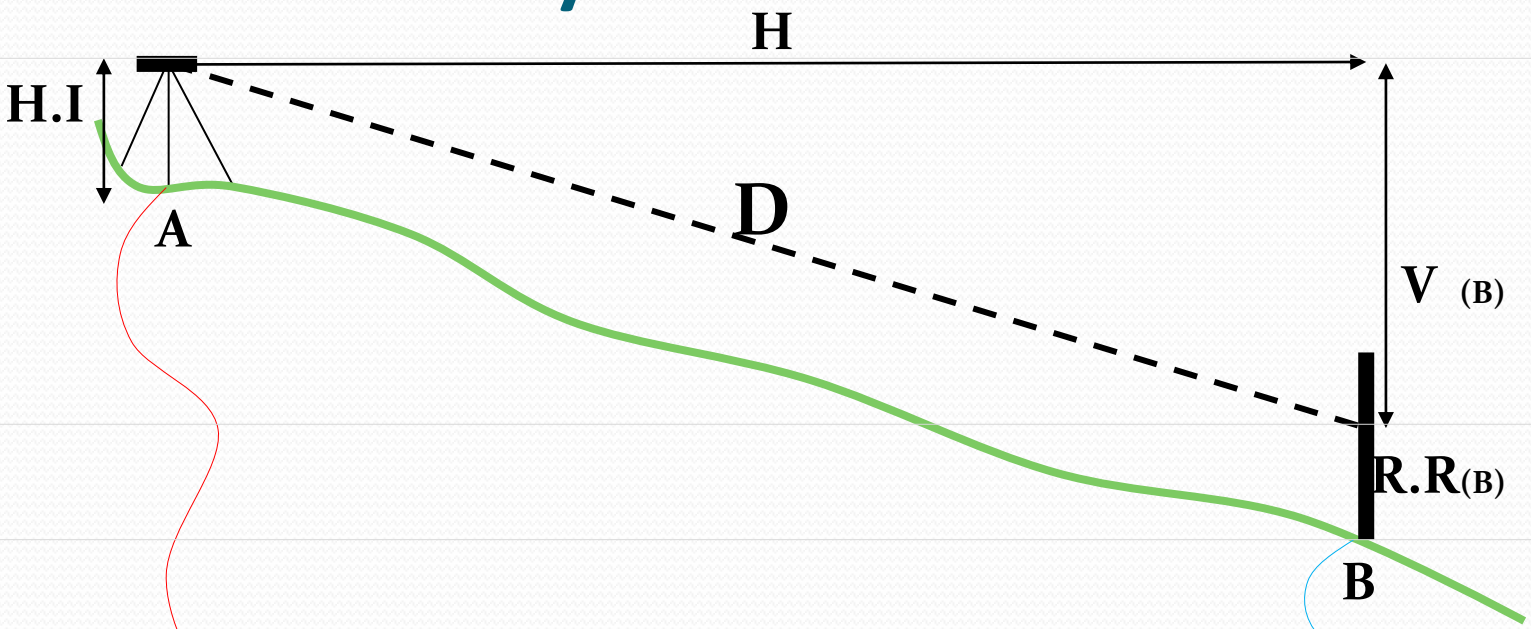
Tacheometry



Elev. A= Elev. B +R.R (B)-V (B) -H.I (if (B) is known)

Elev. B= Elev. A +H.I+ V(B) -R.R (B) (if (A) is known)

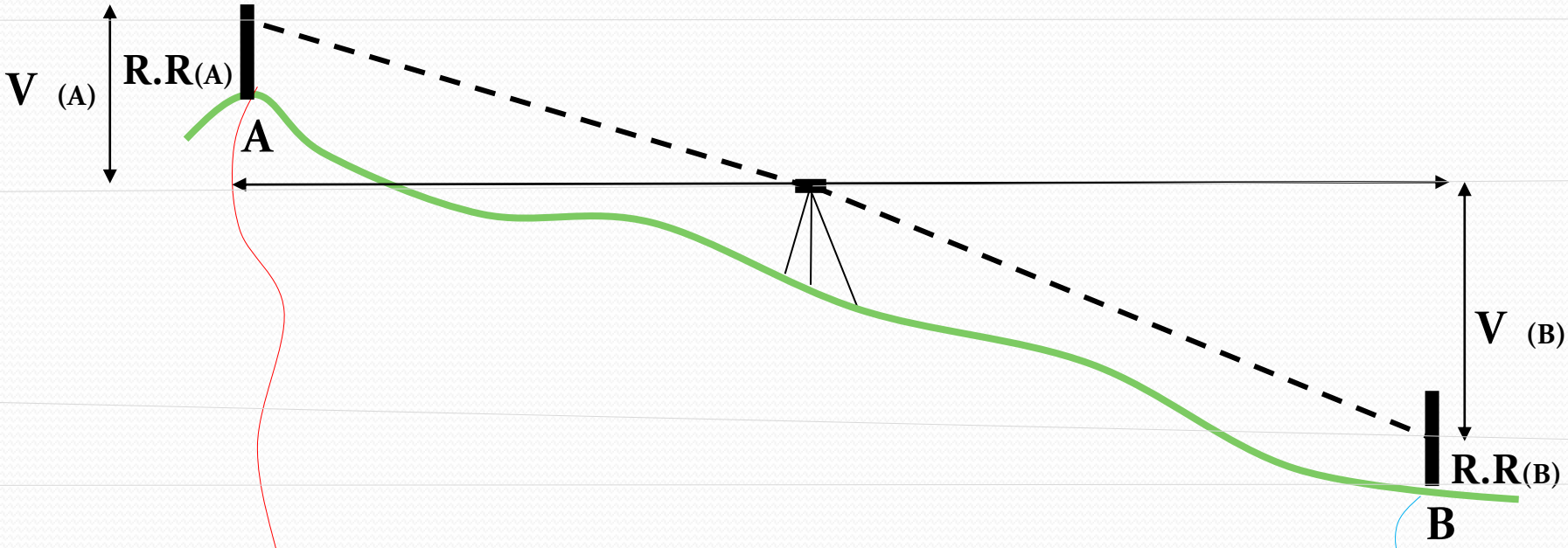
Tacheometry



Elev. A= Elev. B +R.R (B)+V (B) -H.I (if (B) is known)

Elev. B= Elev. A +H.I-V (B) -R.R (B) (if (A) is known)

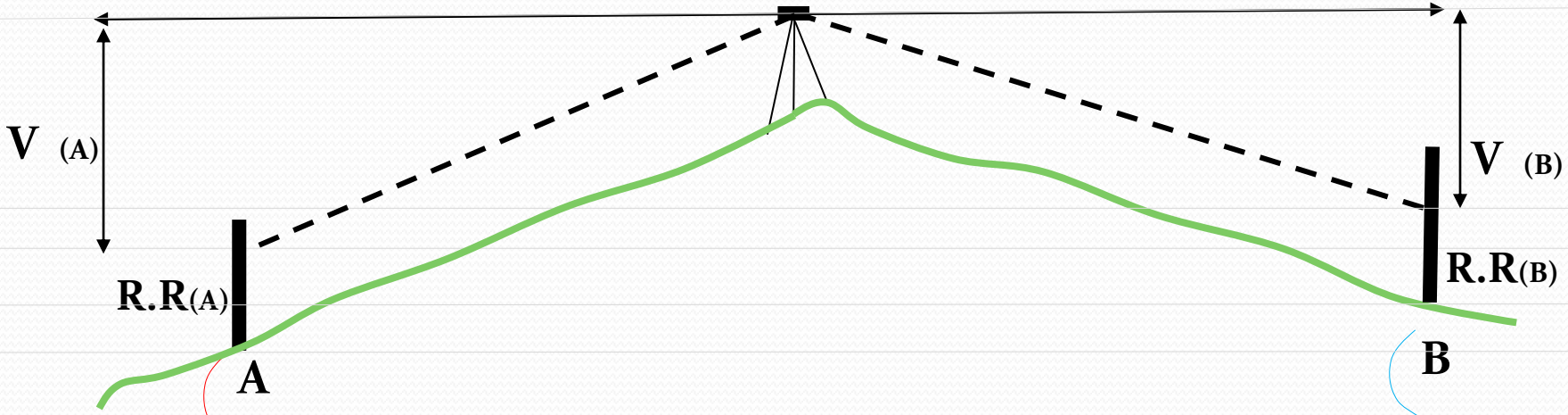
Tacheometry



Elev. A= Elev. B +R.R (B)+V (B) +V (A) - R.R(A) (if (B) is known)

Elev. B= Elev. A + R.R(A)- V(A)- V (B) -R.R (B) (if (A) is known)

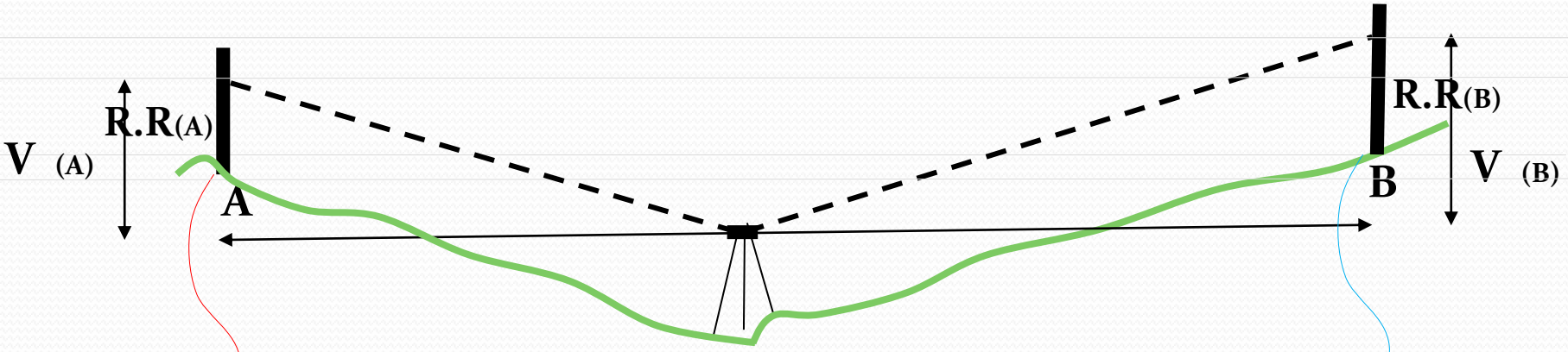
Tacheometry



Elev. A= Elev. B +R.R (B)+V (B) -V (A) - R.R(A) (if (B) is known)

Elev. B= Elev. A + R.R(A)+ V(A)- V (B) -R.R (B) (if (A) is known)

Tacheometry



Elev. A= Elev. B +R.R (B)-V (B) +V (A) - R.R(A) (if (B) is known)

Elev. B= Elev. A + R.R(A)- V(A)+ V (B) -R.R (B) (if (A) is known)