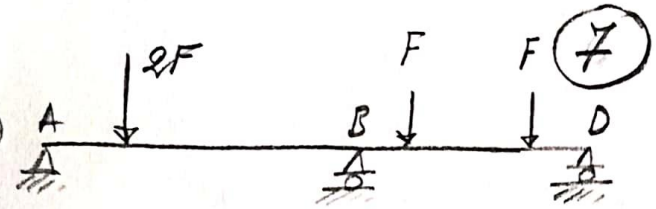
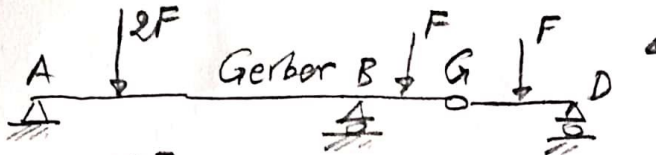
3)



$S=3$, αγνωστοι $S+1=3+1=4$

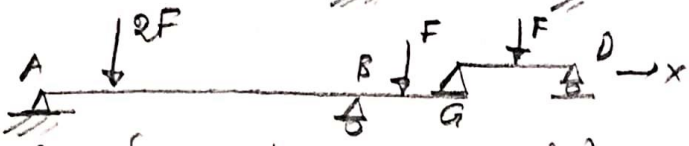
Εξισ. 3, $S+1-3=S-2=4-3=1$ φορά υπερστατ. δομικ.

Βλαστός 1 αρθρωσης G

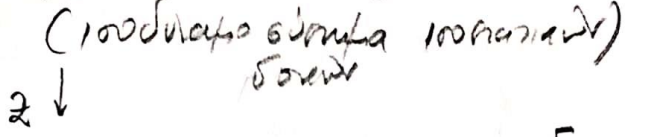


6 αγνωστοι $\{H_A, V_A, V_B, V_D, G_x, G_z\}$

6 εξισώσεις



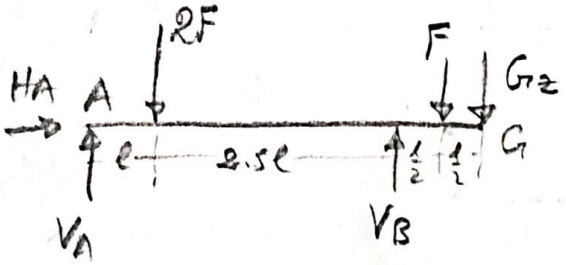
(ισοδύναμο σύστημα ισορροπιών δοκών)



$\Sigma F_x=0 \Rightarrow \boxed{G_x=0}$

$\circlearrowleft \Sigma M_G=0 \Rightarrow l V_D = \frac{l}{2}F \Rightarrow \boxed{V_D=\frac{F}{2}}$

$\Sigma F_z=0 \Rightarrow \boxed{G_z = F-V_D = \frac{F}{2}}$



$\Sigma F_x=0 \Rightarrow \boxed{H_A=0}$

$\circlearrowleft \Sigma M_A=0 \Rightarrow 3.5\cancel{l} V_B = \cancel{l}2F + 4\cancel{l}F + 4.5\cancel{l}G_z \Rightarrow$

$\Rightarrow V_B = \frac{1}{3.5}\left(2F+4F+4.5\frac{F}{2}\right) \Rightarrow \boxed{V_B = 2.36\,F}$

$\Sigma F_z=0 \Rightarrow V_A = 2F+F+\frac{F}{2}-V_B = 3.5F-2.36F \Rightarrow \boxed{V_A = 1.14F}$