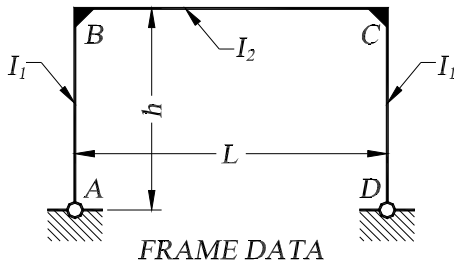


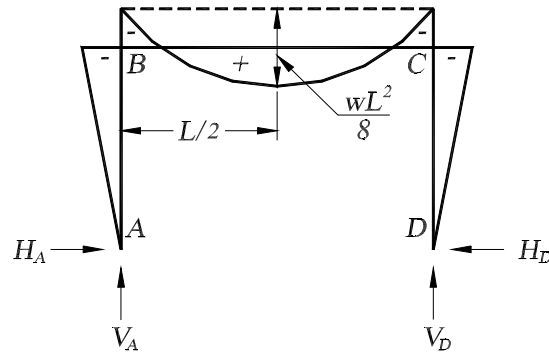
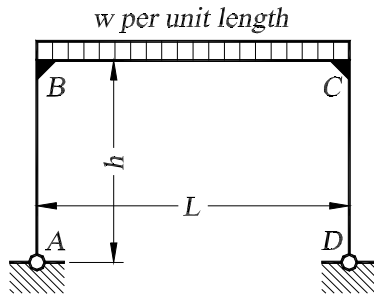
## SINGLE SPAN & HORIZONTAL RAFTER PORTAL FRAME ANALYSIS, PINNED COLUMNS. KLEINLOGEL FORMULAE



Coefficients :

$$k = \frac{I_2}{I_1} \cdot \frac{h}{L}$$

$$N = 2k + 3$$

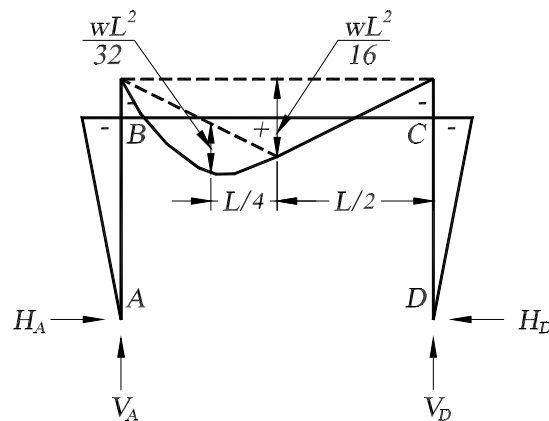
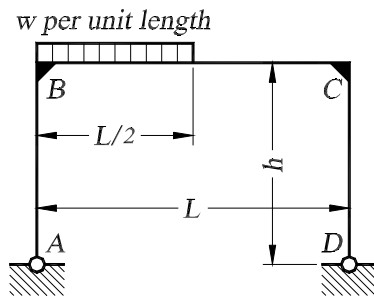


$$M_B = M_C = -\frac{wL^2}{4N}$$

$$M_{MAX} = \frac{wL^2}{8} + M_B$$

$$V_A = V_D = \frac{wL}{2}$$

$$H_A = H_D = -\frac{M_B}{h}$$



$$M_B = M_C = -\frac{wL^2}{8N}$$

$$V_A = \frac{3wL}{8}$$

$$V_D = \frac{wL}{8}$$

$$H_A = H_D = -\frac{M_B}{h}$$