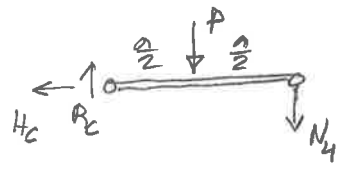
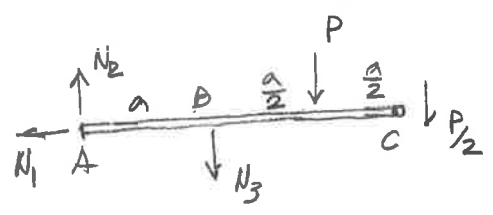
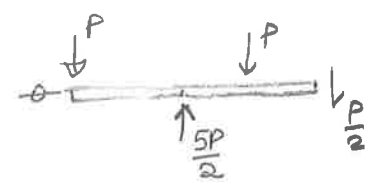


Estutura isostatica (viga Gerber)

• Equil.



$$\begin{aligned} \sum C \left\{ \begin{aligned} N_4 &= -P/2 \\ R_c &= P/2 \\ H_c &= 0 \end{aligned} \right. \end{aligned}$$



$$\begin{aligned} \sum A \left\{ \begin{aligned} N_3 \cdot a + P \frac{3}{2}a + \frac{P}{2} \cdot 2a &= 0 \\ N_3 &= -\frac{5P}{2} \\ N_1 &= 0 \\ N_2 &= -\frac{5P}{2} + \frac{3P}{2} = -P \end{aligned} \right. \end{aligned}$$

• Eqn. constitutivas

$$\begin{aligned} \Delta e_1 &= 0 & \Delta e_2 &= -\frac{Pa}{EA} & \Delta e_3 &= -\frac{5Pa}{2EA} & \Delta e_4 &= -\frac{Pa}{2EA} \\ & & & -\beta & & -25\beta & & -\frac{\beta}{2} \end{aligned}$$

• Compatibilidade

$$\begin{aligned} v_c &= 0 \\ v_c &= 6\beta = \frac{6Pa}{EA} (\downarrow) \end{aligned}$$

