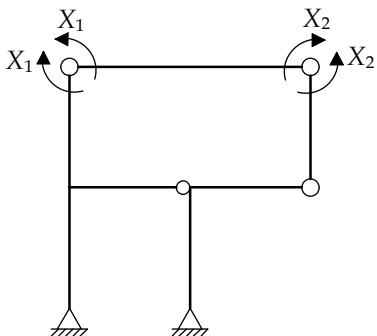
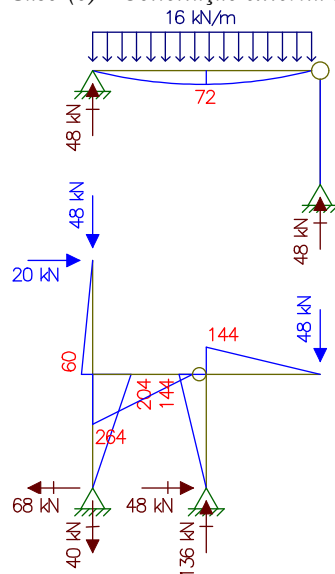


1ª Questão

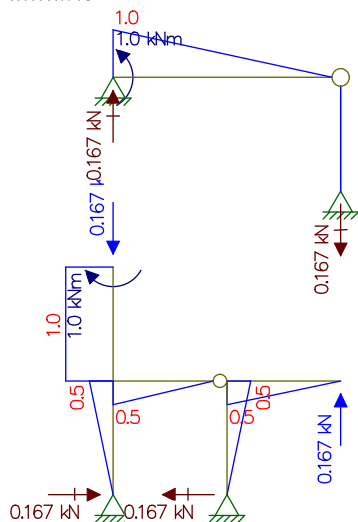
Sistema Principal (SP) e Hiperestáticos



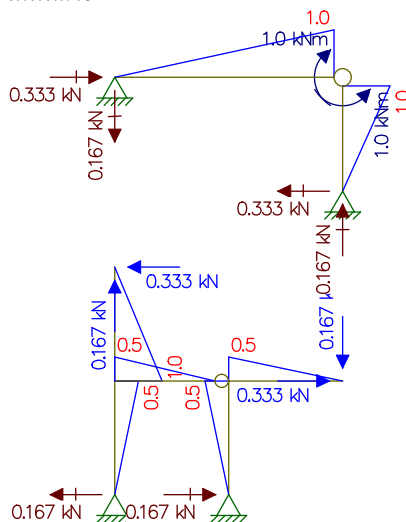
Caso (0) - Solicitação externa isolada no SP



Caso (1) - Hiperestático X1 isolado no SP com valor unitário



Caso (2) - Hiperestático X2 isolado no SP com valor unitário



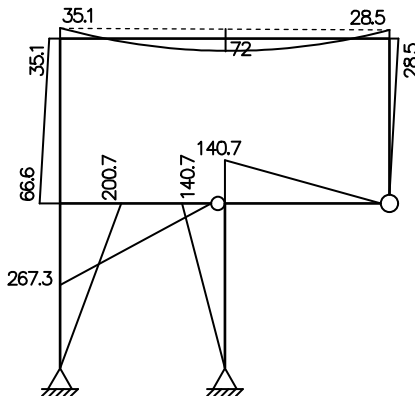
Momentos Fletores Finais:

$$M = M_0 + M_1 \cdot X_1 + M_2 \cdot X_2$$

$$X_1 = +35.1 \text{ kNm}$$

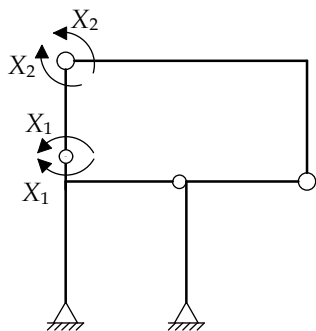
$$X_2 = +28.5 \text{ kNm}$$

(M)
[kNm]

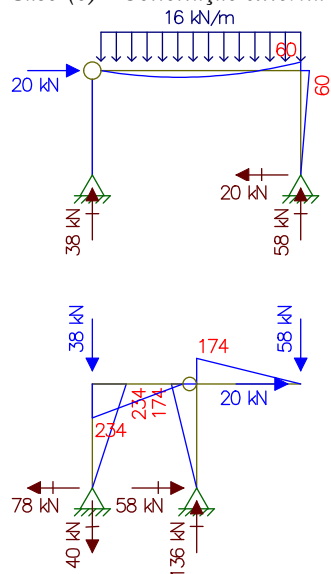


1ª Questão

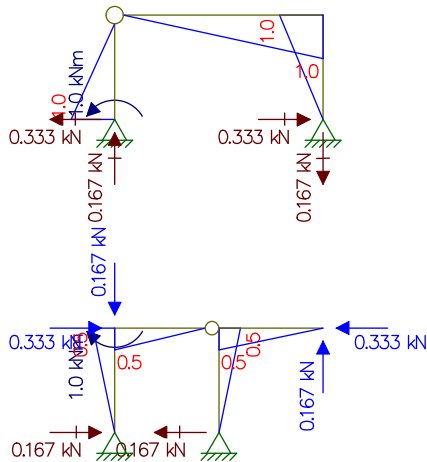
Sistema Principal (SP) e Hiperestáticos



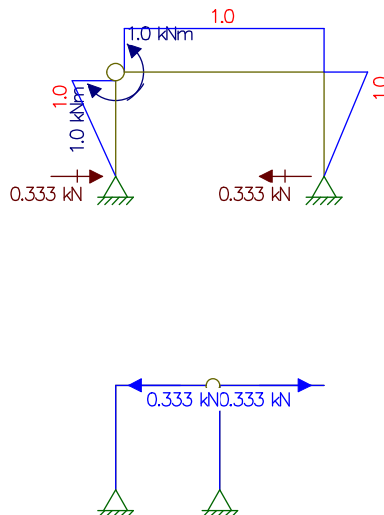
Caso (0) - Solicitação externa isolada no SP



Caso (1) - Hiperestático X1 isolado no SP com valor unitário



Caso (2) - Hiperestático X2 isolado no SP com valor unitário



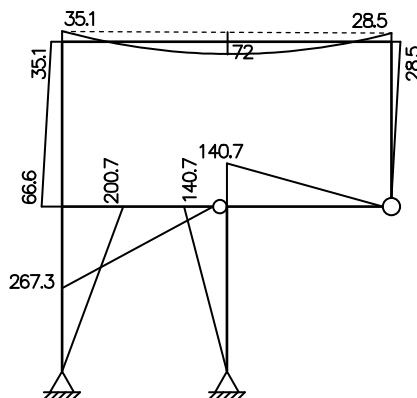
Momentos Fletores Finais:

$$M = M_0 + M_1 \cdot X_1 + M_2 \cdot X_2$$

$$X_1 = +66.6 \text{ kNm}$$

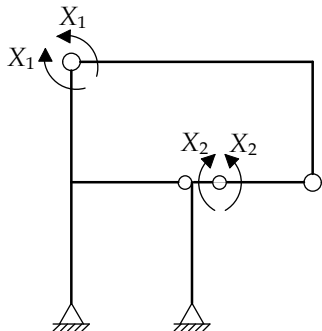
$$X_2 = +35.1 \text{ kNm}$$

M
[kNm]

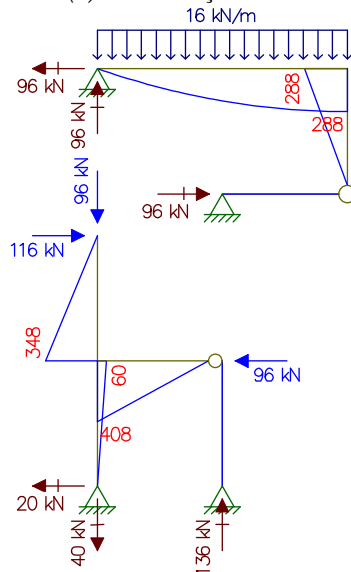


1ª Questão

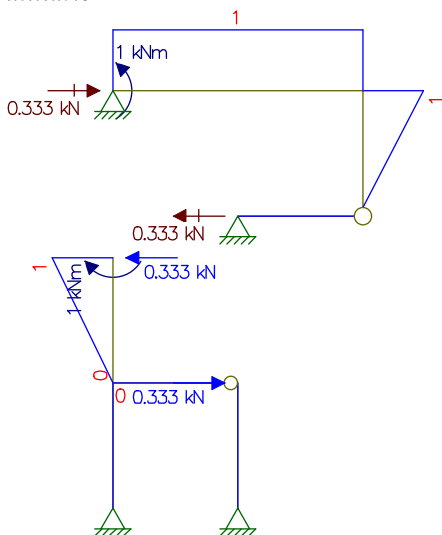
Sistema Principal (SP) e Hiperestáticos



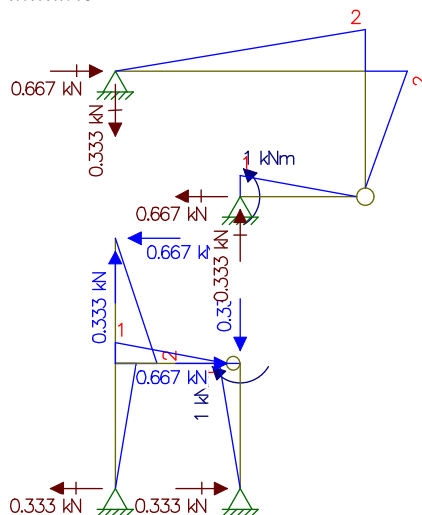
Caso (0) – Solicitação externa isolada no SP



Caso (1) – Hiperestático X1 isolado no SP com valor unitário



Caso (2) – Hiperestático X2 isolado no SP com valor unitário



Momentos Fletores Finais:

$$M = M_0 + M_1 \cdot X_1 + M_2 \cdot X_2$$

$$X_1 = +35.1 \text{ kNm}$$

$$X_2 = +140.7 \text{ kNm}$$

