

SCHEMA Ø

REAZIONI VINCOLARI

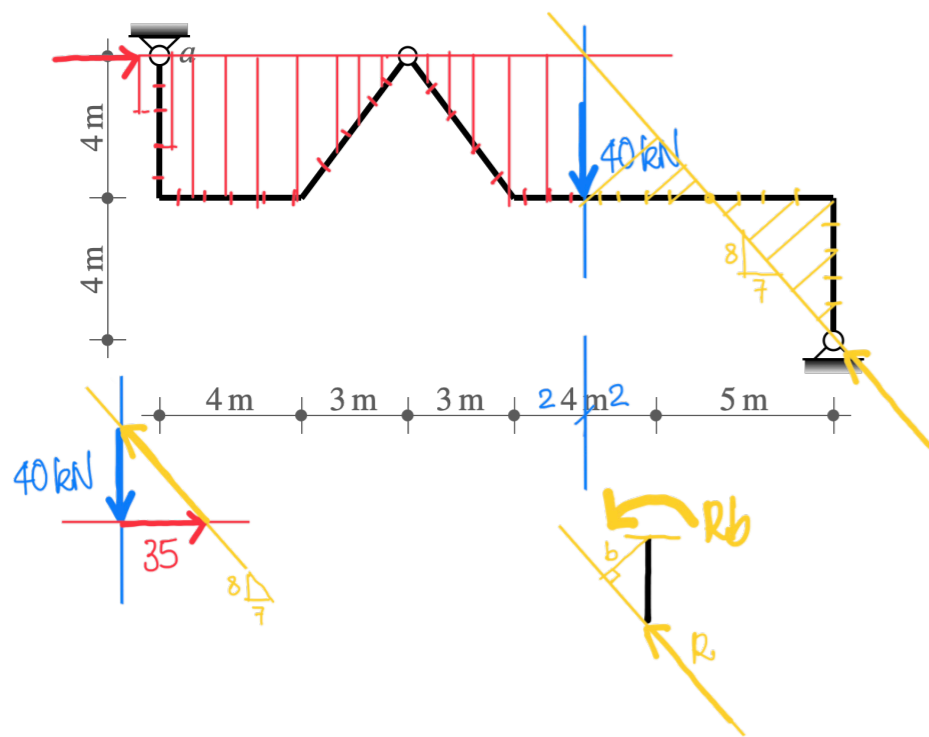


DIAGRAMMA MO

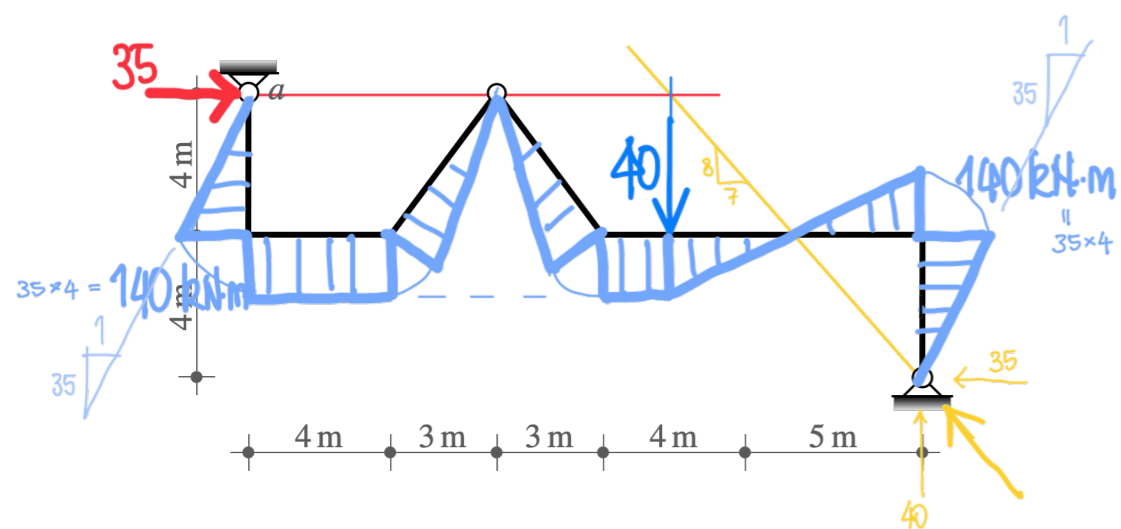


DIAGRAMMA TO

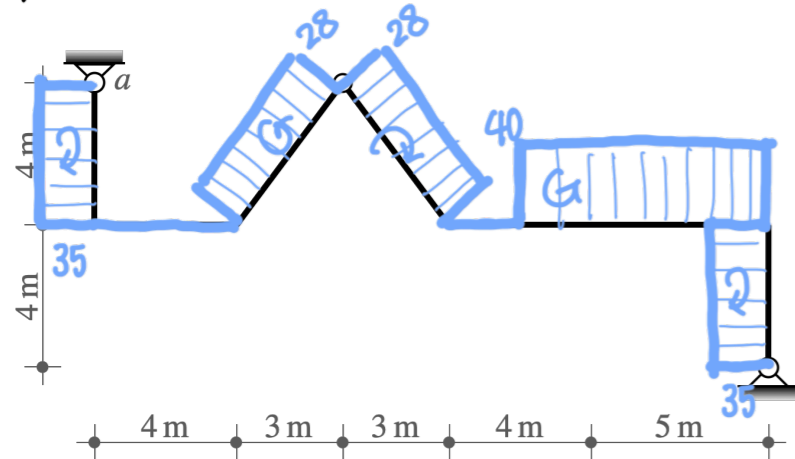
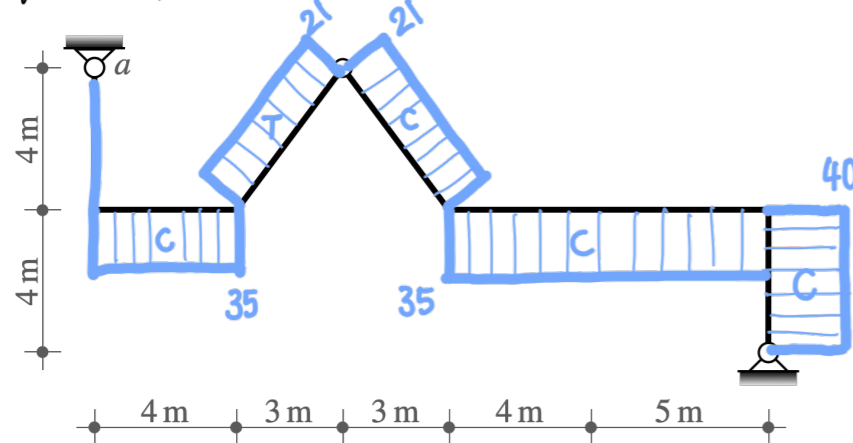


DIAGRAMMA NO



SCHEMA X

REAZIONI VINCOLARI

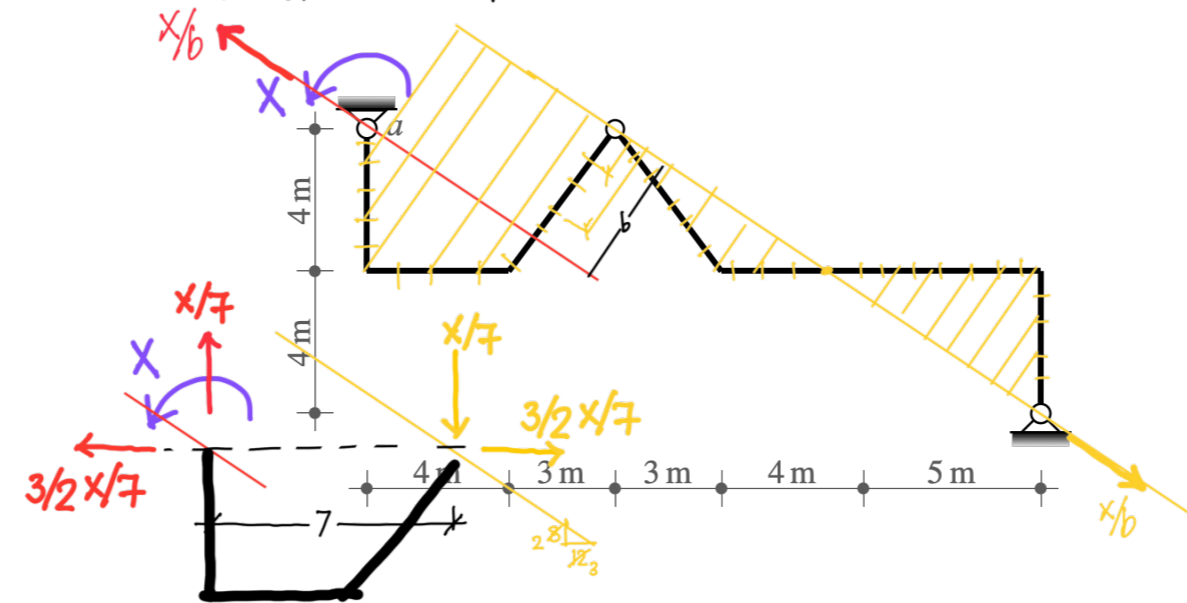


DIAGRAMMA MX

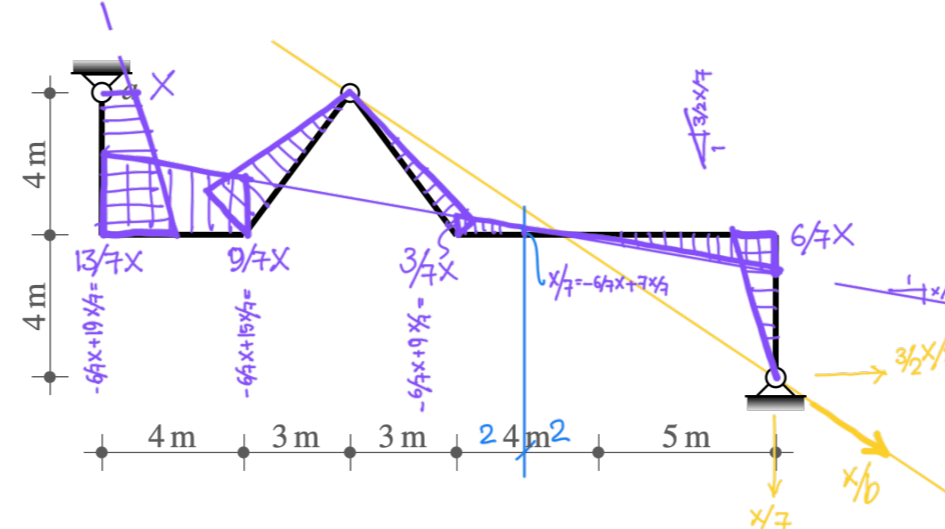


DIAGRAMMA TX

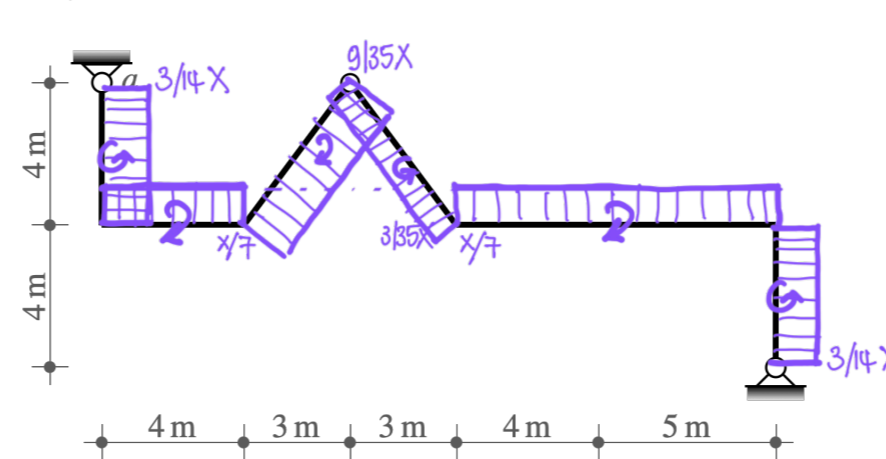
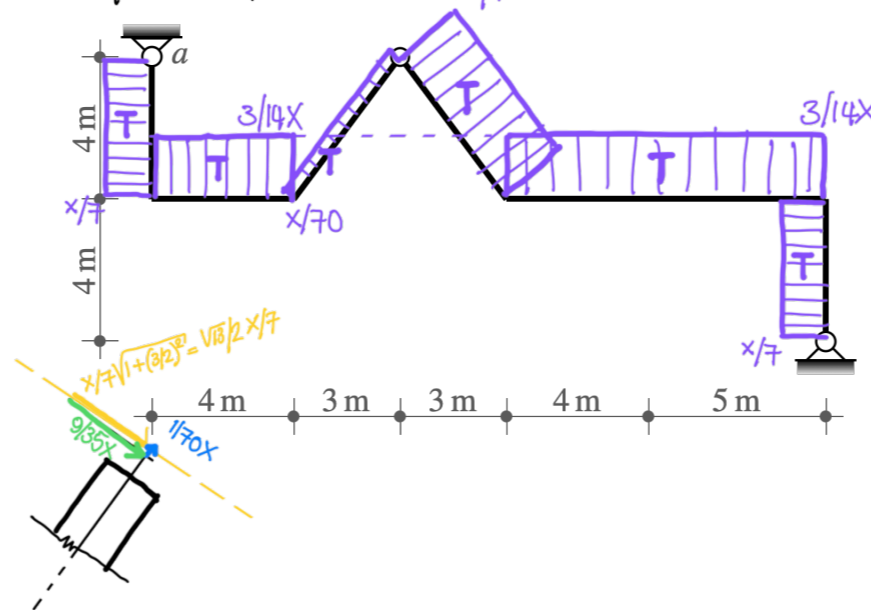


DIAGRAMMA NX



PROGETTO/VERIFICA

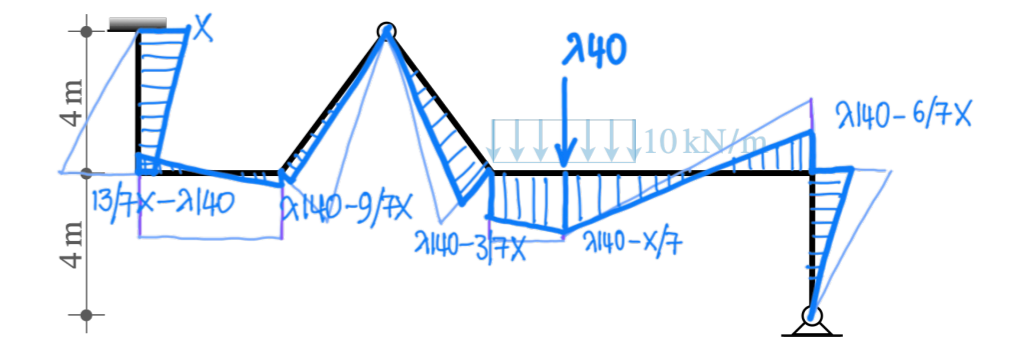
PROGETTO : $W_{ax} = \frac{140 \text{ kN}\cdot\text{m}}{90 \text{ MPa}} = 1555.56 \text{ cm}^3$
 \Rightarrow IPE 500 : $A = 116 \text{ cm}^2$, $W_x = 1900 \text{ cm}^3$
 $S_x(A/2) = 1100 \text{ cm}^3$

VERIFICA : $\sigma_{max} = \frac{40 \text{ kN}}{116 \text{ cm}^2} + \frac{140 \text{ kN}\cdot\text{m}}{1900 \text{ cm}^3}$
 $= 3.45 \text{ MPa} + 73.68 \text{ MPa} = 77.13 < 90$

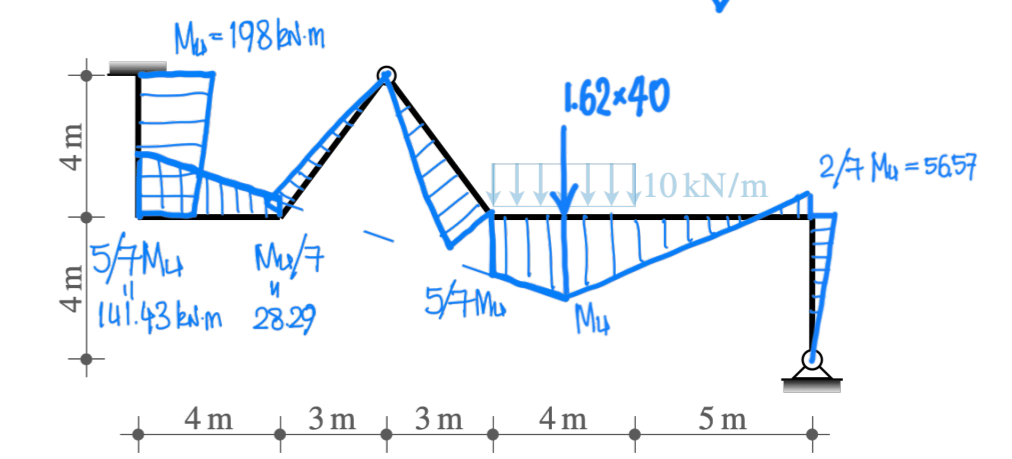
momento ultimo progettato : $M_{u1} = 2 \times 90 \text{ MPa} \times 1100 \text{ cm}^3$
 $= 198 \text{ kN}\cdot\text{m}$

ANALISI A COLLASSO

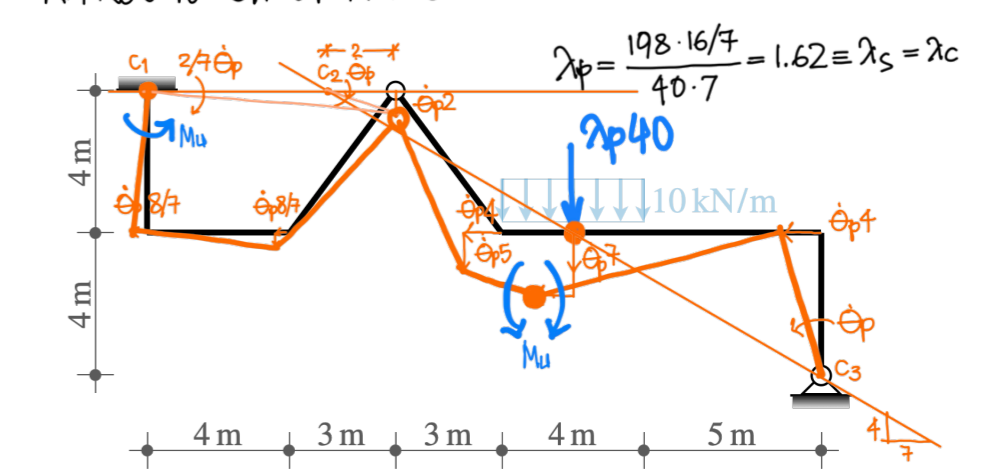
APPROCCIO STATICO



IPOTESI OTTIMAZIONE : $\lambda_s 140 - X/7 = M_u \rightarrow \lambda_s = 1.62$
 $X = M_u$



APPROCCIO CINEMATICO



$\Phi = \lambda_p 40 \times (\dot{\epsilon}_7) - (M_u 2/7 \dot{\epsilon}_7 + M_u 2 \dot{\epsilon}_7) = 0 \Rightarrow \lambda_p = \frac{M_u (2/7 + 2)}{40 \times 7}$