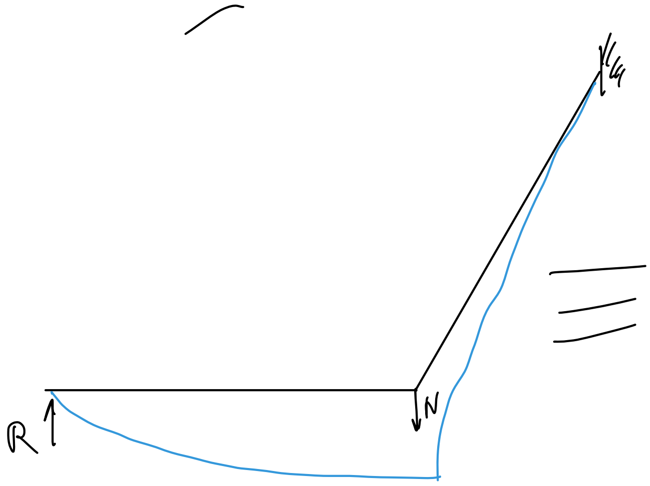

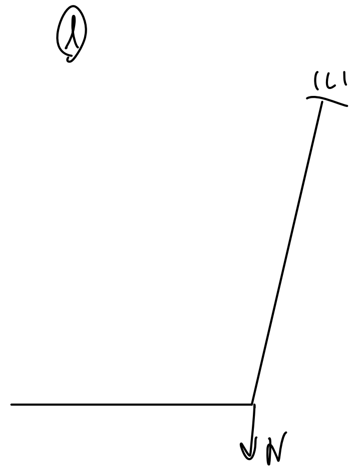

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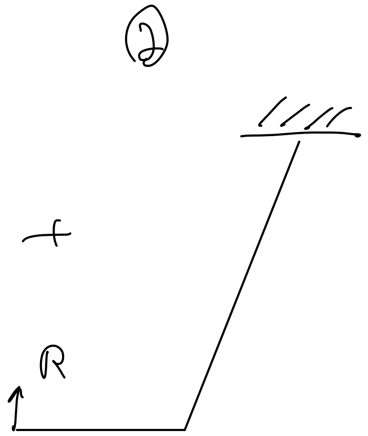
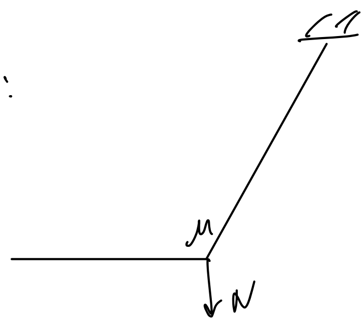
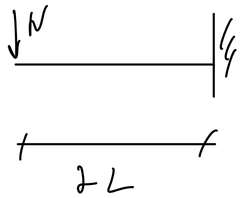


(1) :

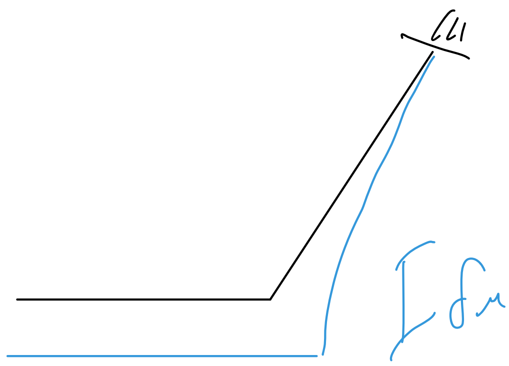


$\delta_M =$

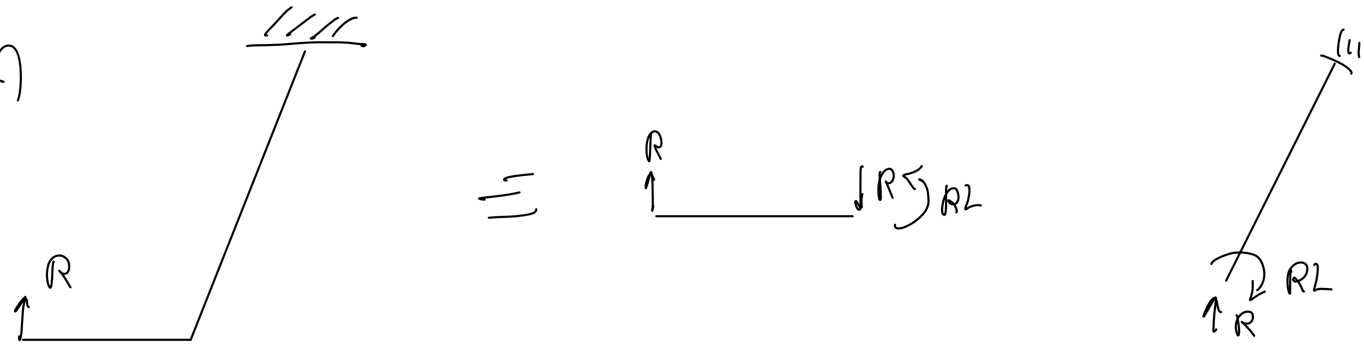


$$\delta_M = \frac{N(2L)^3}{3EI}$$

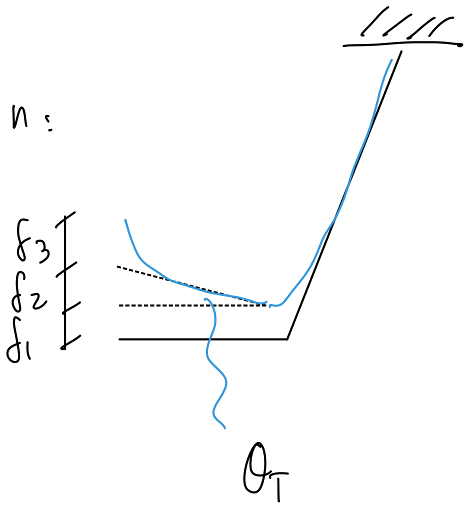
(1) — Deformation



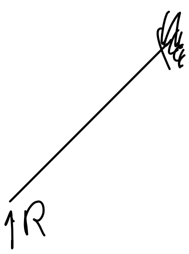
(2)



(2) - Deformation:



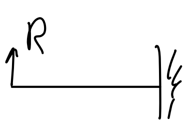
$\delta_1 =$



$$= \frac{R(2L)^3}{3EI}$$

$$\delta_2 = \theta_T \cdot L = \frac{(L)(M_T)(L)}{GJ} \xrightarrow{M_T = RL} \frac{RL^3}{GJ}$$

$\delta_3 =$



$$= \frac{RL^3}{3EI}$$

$$\Sigma\delta = \frac{RL^3}{3EI} + \frac{RL^3}{GJ} + \frac{8}{3}\frac{RL^3}{EI} = \frac{3RL^3}{EI} + \frac{RL^3}{GJ}$$

Deflection of point T is = 0

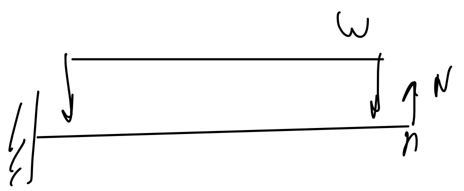
$$\Sigma \delta = \delta_M(1)$$

$$R L^3\left(\frac{3}{EI}+\frac{1}{GJ}\right)=\frac{8}{3}\frac{N L^3}{EI}$$

(I) $$R = \frac{8}{3}\frac{N}{EI}\times\frac{1}{\left(\frac{3}{EI}+\frac{1}{GJ}\right)}$$

$$+\downarrow \delta_{M,tot} = \delta_M - \delta_1 = \frac{8}{3}\frac{L^3}{EI}(N-R)$$

c



$$\rightarrow +\delta_n\downarrow = \frac{wL^4}{8EI} - \frac{NL^3}{3EI}$$

$$\delta_n - \delta_m = \Delta L_{mn} = \frac{NL}{EA}$$

$$\frac{wL^4}{8EI} - \frac{NL^3}{3EI} - \frac{8}{3}\frac{L^3}{EI}\left(N - \frac{8}{3}\frac{N}{EI}\times\frac{1}{\left(\frac{3}{EI}+\frac{1}{GJ}\right)}\right) = \frac{NL}{EA}$$

$N = \ldots\ldots$

substitue N to δn .