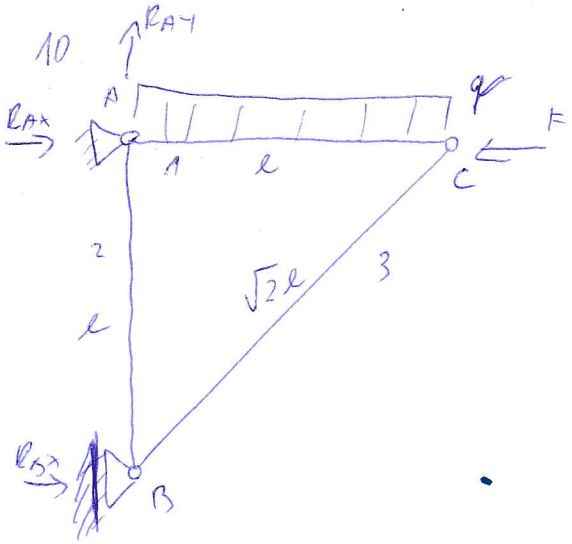
10



$k_h = 1{,}8$

$k_v = 6$

$q = 5\ N/mm$

$F = 20kN$

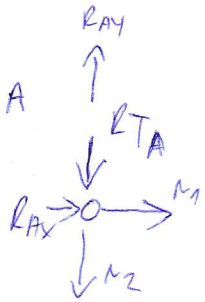
$E = 110GPa$

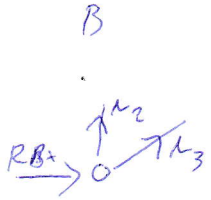
$R_z = 200 N/mm^2$

$R_d = -450 N/mm^2$

wolfa $\ell = 500mm$

$$R_{TA} = R_{TC} = \frac{q \cdot \ell}{2} = \cancel{2500} + 1250\ N$$





$$\Sigma M_{OB} = 0 = F \cdot \ell - R_A \cdot \ell - q \cdot \ell \cdot \frac{\ell}{2}$$

$$R_A = \frac{-q \cdot \frac{\ell^2}{2} + F \cdot \ell}{\ell} = +18750\ N$$

$$\Sigma F_{ix} = R_{Ax} + R_{Bx} - F = 0$$

$$R_{Bx} = \cancel{38750}\ N \quad 1250N$$

$$\Sigma F_{iy} = 0 = -q \cdot \ell + R_{AY} \Rightarrow R_{AY} = q \cdot \ell = 2500$$

A:

$$x: R_{Ax} + N_1 = 0$$

$$N_1 = -R_{Ax} = -18750\ N$$

$$Y: R_{AY} - R_{TA} - N_2 = 0$$

$$N_2 = R_{TA} + R_{AY} = -1250 + 2500 = +\cancel{3}1250$$

$N_1 = -18750$

$N_2 = -1250$

$N_3 = -1767{,}76$

$R_{TC} = 1250$

$R_{TA} = 1250$

B:

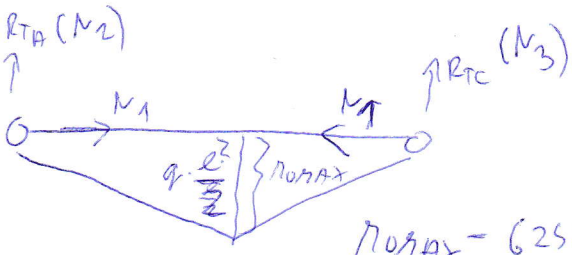
$$x: R_{Bx} + N_3 \cdot \cos 45 = 0 \qquad N_3 = -1767{,}76$$

$$Y: N_2 + N_3 \cdot \sin 45 = 0$$

C:

$$x: -F - N_1 - N_3 \cdot \cos 45 = 0$$

$$Y: -R_{TC} - N_3 \cdot \sin 45 = 0$$



$N \cdot mm$

$M_{OMAX} = 625000$