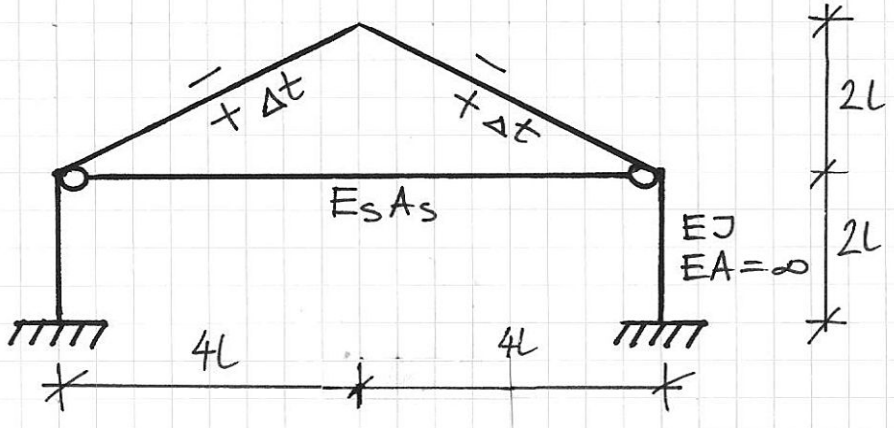
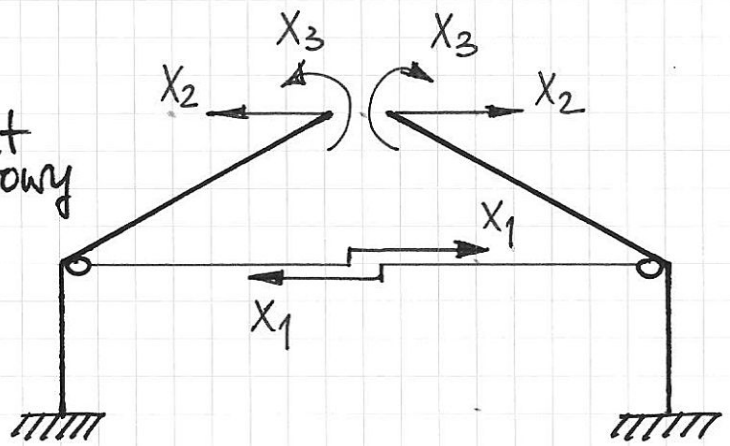
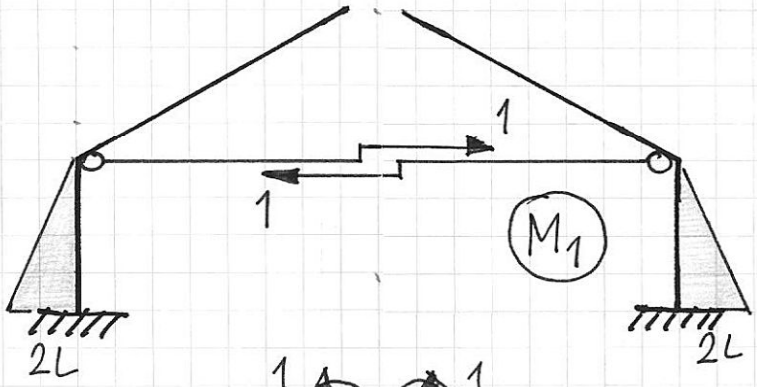
Kolokwium z MK I, wtorek 19 XI 2013 METODA SIŁ

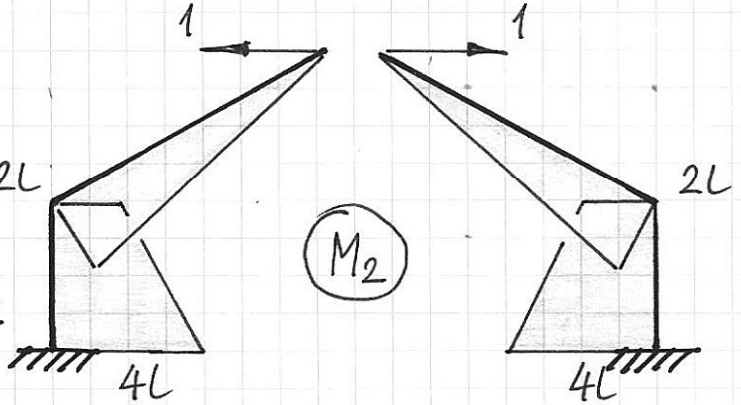
Dobrać schemat podstawowy. Obliczyć δ_{ij}, δ_{io}.

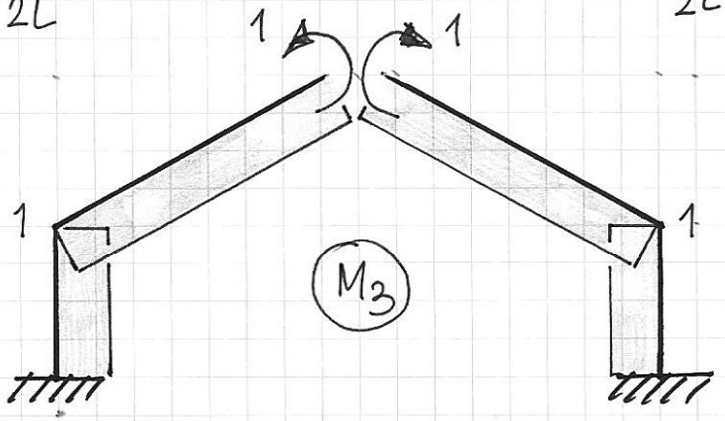


Schemat podstawowy









$$\delta_{10} = 0$$

$$\delta_{20} = 4\sqrt{5}\,\frac{\alpha_t \Delta t l^2}{h}\,2L$$

$$\delta_{30} = 4\sqrt{5}\,\frac{\alpha_t \Delta t L}{h}$$

$$\delta_{11} = \frac{16}{3}\frac{L^3}{EJ} + 8\frac{L}{E_s A_s} \qquad \delta_{22} = \frac{112+16\sqrt{5}}{3}\frac{L^3}{EJ}$$

$$\delta_{12} = \delta_{21} = -\frac{40}{3}\frac{L^3}{EJ} \qquad \delta_{23} = \delta_{32} = (12+4\sqrt{5})\frac{L^2}{EJ}$$

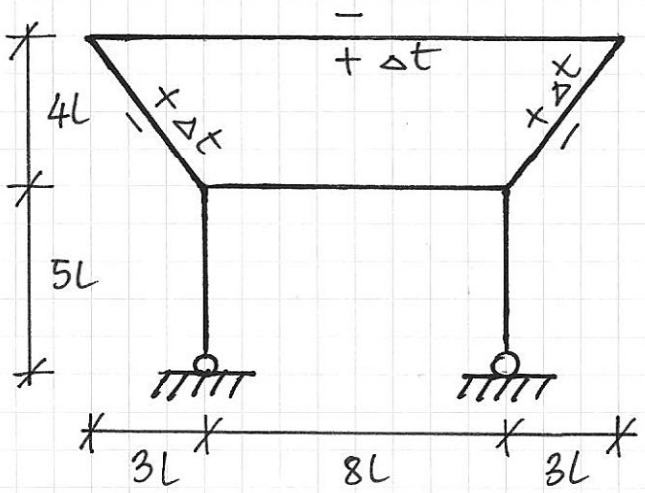
$$\delta_{13} = \delta_{31} = -4\frac{L^2}{EJ} \qquad \delta_{33} = (4+4\sqrt{5})\frac{L}{EJ}$$

Rozwiązanie opracował: G. Dziemianowski

Kolokwium z MKI, czwartek 21 XI 2013 METODA SIŁ

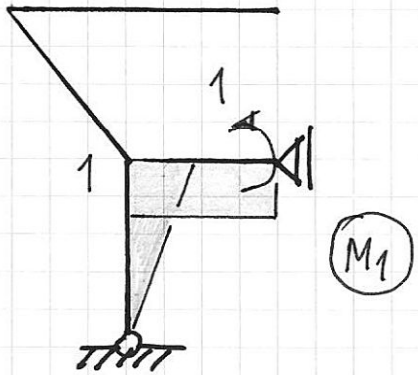
Rozwiązanie opracował:
G. Dzierżanowski

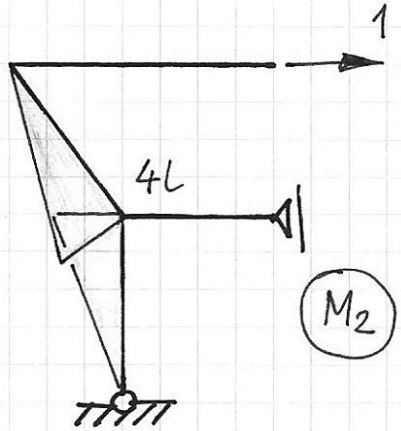
Dobrać schemat podstawowy. Obliczyć δ_{ij}, δ_{io}.



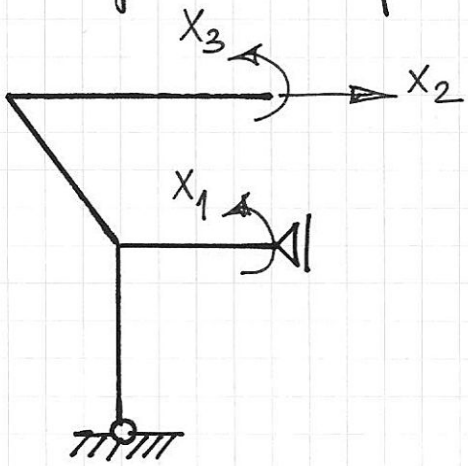
$EJ = \text{const.}$

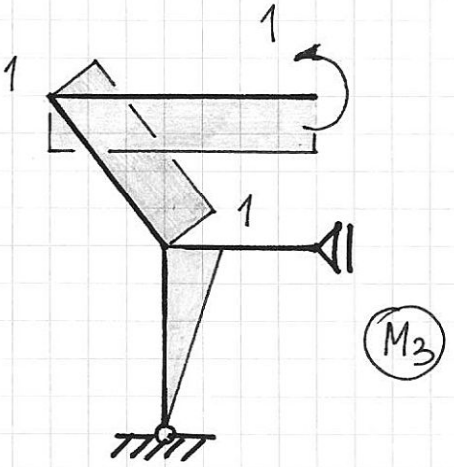
$EA = \infty$





Potrójkowy schemat podstawowy:





$$\delta_{11} = \frac{17}{3}\frac{L}{EJ} \qquad \delta_{12} = \delta_{21} = -\frac{20}{3}\frac{L^2}{EJ} \qquad \delta_{13} = \delta_{31} = \frac{5}{3}\frac{L}{EJ}$$

$$\delta_{22} = \frac{160}{3}\frac{L^3}{EJ} \qquad \delta_{23} = \delta_{32} = -\frac{50}{3}\frac{L^2}{EJ} \qquad \delta_{33} = \frac{41}{3}\frac{L}{EJ}$$

$$\delta_{10} = 0 \qquad \delta_{20} = -10\frac{\alpha_t \Delta t\, L^2}{h} \qquad \delta_{30} = 12\frac{\alpha_t \Delta t\, L}{h}$$