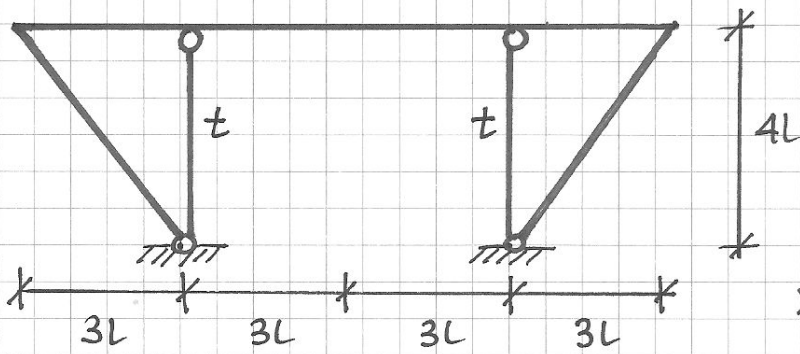
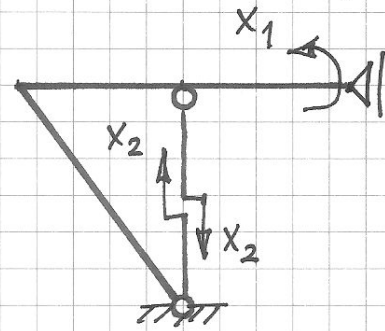


MK1 kolokwium 1.3a r. ak. 2014/2015

Narysować wykres M  $EJ = \text{const.}$   
 $EA = \infty$

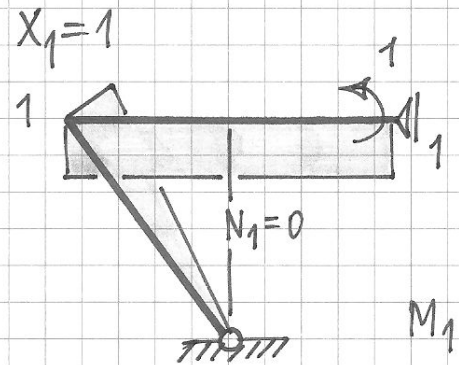
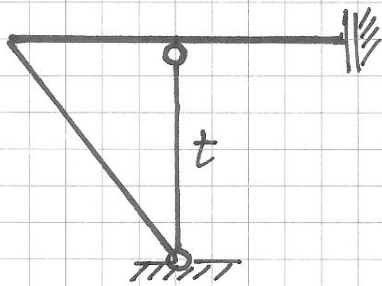


Schemat zastępczy:



$X_2$  oznacza siłę w przecie kratowym

Schemat "półwkowy":



$$\delta_{11} = \frac{23}{3} \frac{L}{EJ}$$

$$\delta_{12} = \delta_{21} = -\frac{19}{2} \frac{L^2}{EJ}$$

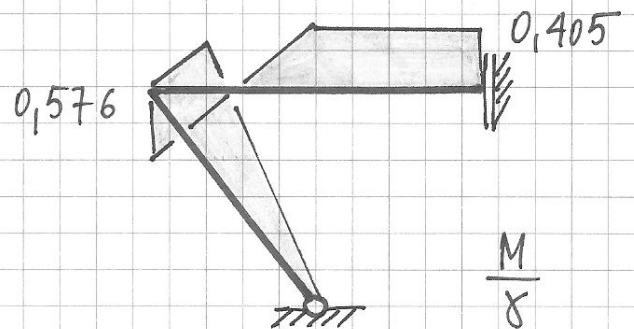
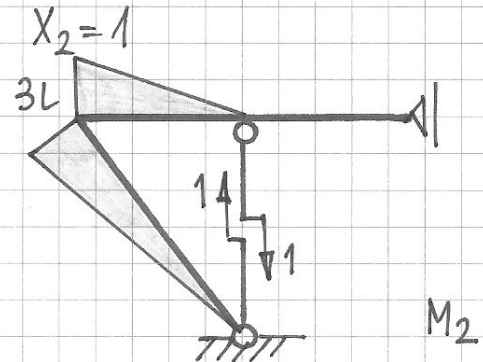
$$\delta_{22} = 24 \frac{L^3}{EJ}$$

$$\delta_{10} = 0$$

$$\delta_{20} = 4\alpha_t t L$$

$$X_1 = -0,405 \frac{EJ\alpha_t t}{L}$$

$$X_2 = -0,327 \frac{EJ\alpha_t t}{L^2}$$



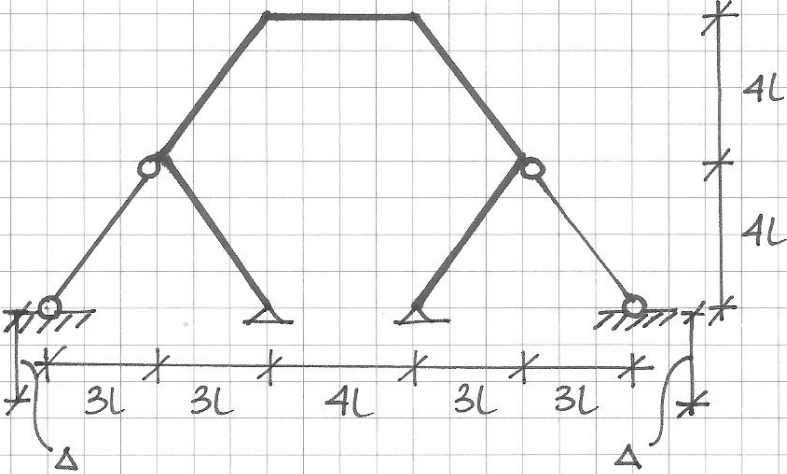
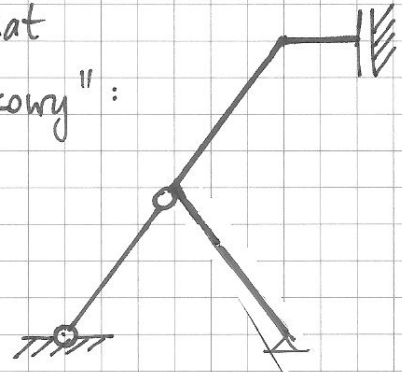
$$\gamma = \frac{EJ\alpha_t t}{L}$$

Narysować wykres M

$EJ = \text{const.}$

$EA = \infty$

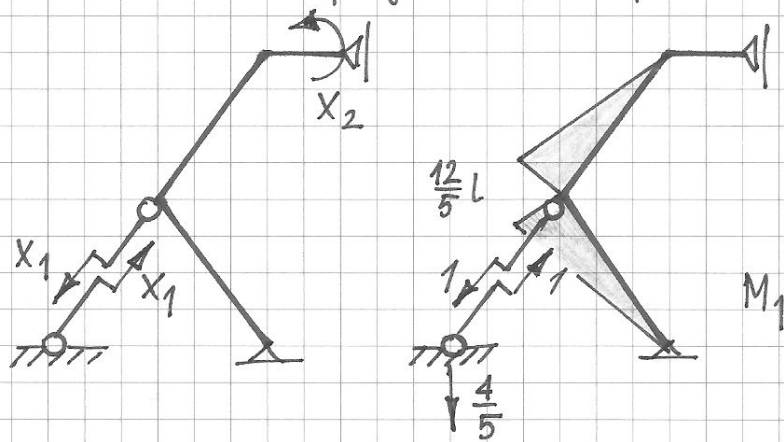
Schemat "połówkowy":



Schemat zastępczy:

$X_1 = 1$

$X_2 = 1$



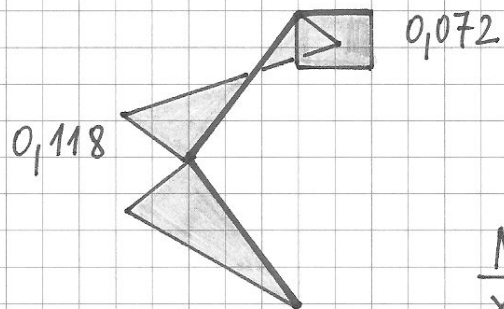
$$\delta_{11} = \frac{96}{5} \frac{l^3}{EJ}$$

$$\delta_{12} = \delta_{21} = -6 \frac{l^2}{EJ}$$

$$\delta_{22} = \frac{16}{3} \frac{l}{EJ}$$

$$\delta_{10} = -\frac{4}{5} \Delta$$

$$\delta_{20} = 0$$



$$X_1 = 0,064 \frac{EJ \Delta}{l^3}$$

$$X_2 = 0,072 \frac{EJ \Delta}{l^2}$$

$$\gamma = \frac{M}{8} \frac{EJ \Delta}{l^2}$$