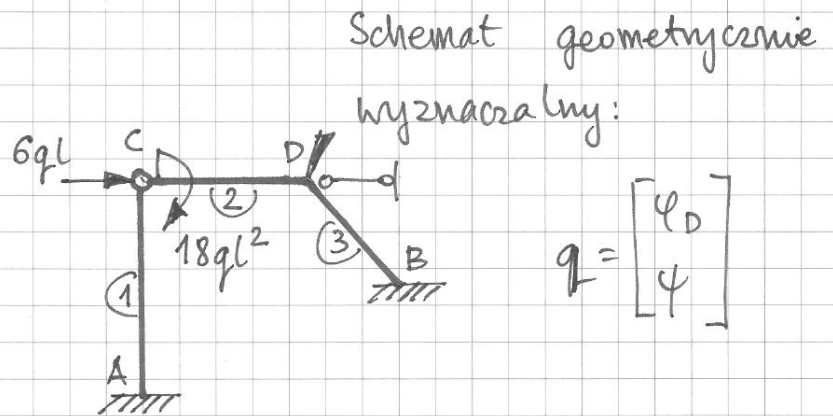
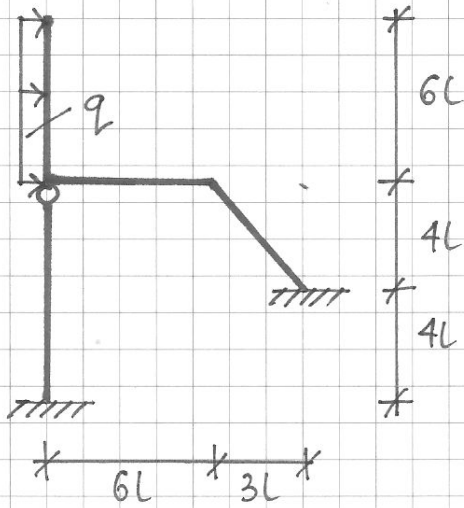


Narysować wykres M

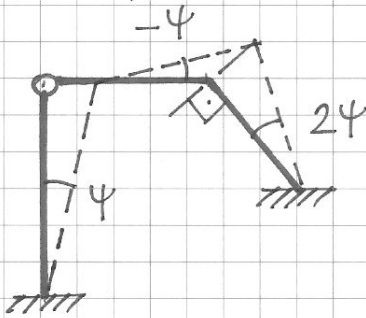
$$EJ = \text{const.}$$

$$EA = \infty \quad (\epsilon_E = 0)$$



$$q = \begin{bmatrix} \varphi_D \\ \psi \end{bmatrix}$$

Plan przesunięć:



Równania równowagi:

$$\Phi_D^{(2)} + \Phi_D^{(3)} = 0$$

$$\Phi_A^{(1)} \cdot \bar{\psi} + \Phi_D^{(2)} \cdot (-\bar{\psi}) + [\Phi_B^{(3)} + \Phi_D^{(3)}] \cdot 2\bar{\psi} + \bar{L}\psi = 0$$

$$\bar{L}\psi = 6ql \cdot 8L \cdot \bar{\psi} - 18ql^2 \cdot \bar{\psi}$$

Wzory transformacyjne:

$$\Phi_A^{(1)} = \frac{3EJ}{8L} (-\psi)$$

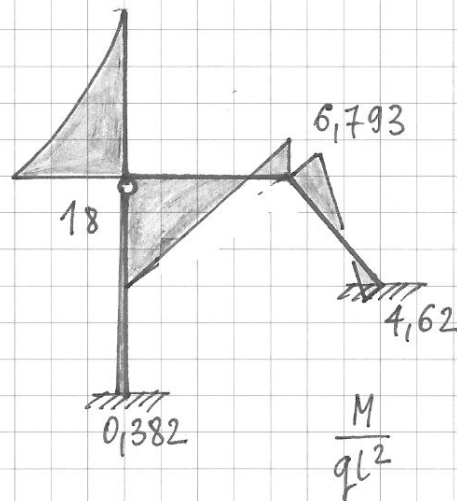
$$\Phi_D^{(2)} = \frac{3EJ}{6L} [\varphi_D + \psi] + 9ql^2$$

$$\Phi_B^{(3)} = \frac{2EJ}{5L} [\varphi_D - 6\psi]$$

$$\Phi_D^{(3)} = \frac{2EJ}{5L} [2\varphi_D - 6\psi]$$

$$\varphi_D = -5,433 \frac{ql^3}{EJ}$$

$$\psi = 1,019 \frac{ql^3}{EJ}$$

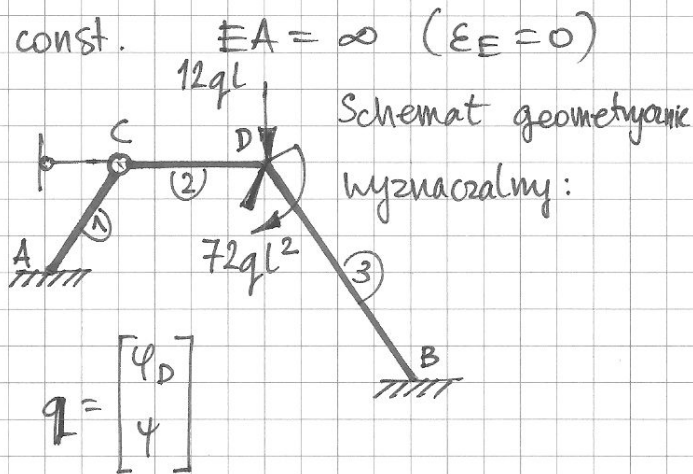
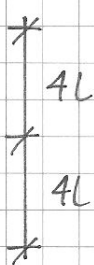
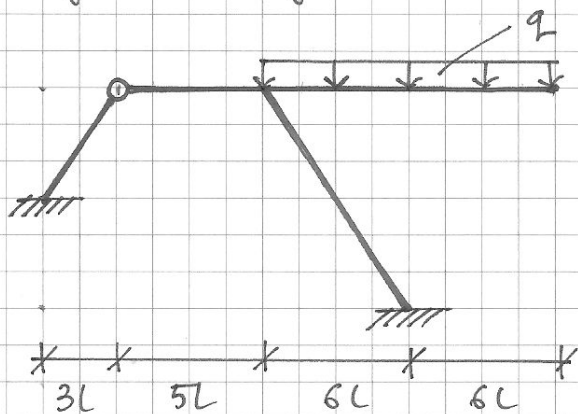


Kolokwium z MK1, 2.1b, r.ak. 2015/16

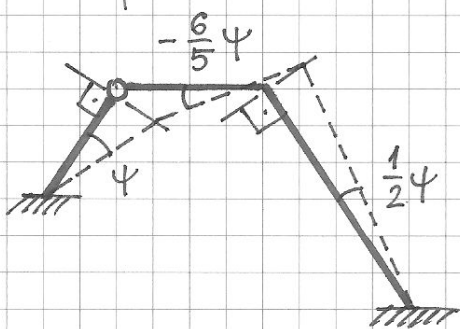
Narysować wykres M

$$EJ = \text{const.}$$

$$EA = \infty \quad (\epsilon_E = 0)$$



Plan przesunąć:



Równania równowagi:

$$\Phi_D^{(2)} + \Phi_D^{(3)} - 72qL^2 = 0$$

$$\Phi_A^{(1)} \cdot \bar{\psi} + \Phi_D^{(2)} \cdot \left(-\frac{6}{5}\bar{\psi}\right) + [\Phi_B^{(3)} + \Phi_D^{(3)}] \cdot \frac{1}{2}\bar{\psi} + \bar{L}\psi = 0$$

$$\bar{L}\psi = -12qL \cdot 6L \cdot \frac{1}{2}\bar{\psi}$$

Wzory transformacyjne:

$$\Phi_A^{(1)} = \frac{3EJ}{5L} [-\psi]$$

$$\Phi_D^{(2)} = \frac{3EJ}{5L} [\varphi_D + \frac{6}{5}\psi]$$

$$\Phi_B^{(3)} = \frac{2EJ}{10L} [\varphi_D - \frac{3}{2}\psi]$$

$$\Phi_D^{(3)} = \frac{2EJ}{10L} [2\varphi_D - \frac{3}{2}\psi]$$

$$\varphi_D = 89,524 \frac{qL^3}{EJ}$$

$$\psi = -41,723 \frac{qL^3}{EJ}$$

