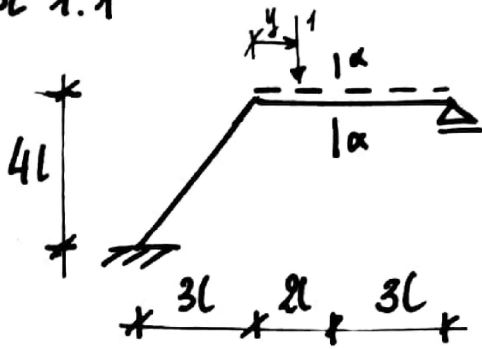


Kol 1.1



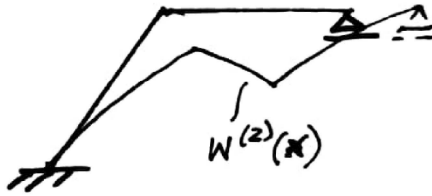
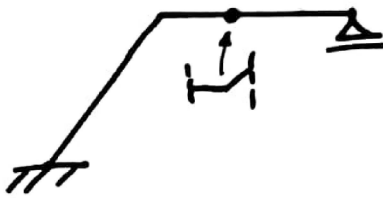
$LW M_x = ?$

$EI = \text{const}$
 $EA = \infty$

$L_{12} = 1 \cdot w^{(2)}(y) - M_x(y) \cdot 1$

$L_{21} = 0$

$LW M_x = M_x(y) = w^{(2)}(y)$



$W^{(2)}(x) = W_q^{(2)}(x) + W_o^{(2)}(x) = W_q^{(2)}(x) + W_{o,II}^{(2)}(x) + W_{o,I}^{(2)}(x) = W_{spr}^{(2)}(x) + W_{o,I}^{(2)}(x)$

W dalszym opisie pominięto indeks $^{(2)}$

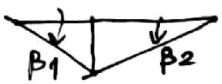
$W_{spr}(x) = A_0 + A_1 x + A_2 x^2 + A_3 x^3$

$W_{spr}(0) = \psi \cdot 3l \quad W_{spr}(5l) = 0$

$\varphi_{spr}(0) = \varphi_1 - \beta_1 \quad M_{spr}(5l) = 0$



=



$-w_{o,I}(x)$

$\begin{cases} \beta_1 + \beta_2 = 1 \\ 2l\beta_1 + 3l\beta_2 = 1 \end{cases} \rightarrow \beta_1 = \frac{3}{5}, \beta_2 = \frac{2}{5}$

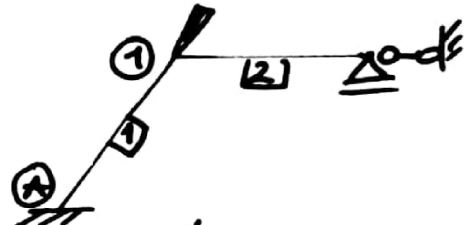


$-w_{o,II}(x)$

$w_{o,I}(x) = \begin{cases} \beta_1 x, & x \leq 2l \\ \beta_2 (5l - x), & x > 2l \end{cases}$

$w(x) = \begin{cases} 0.61l + 0.38x + 0.029 \frac{x^2}{l} - 0.019 \frac{x^3}{l^2} & \text{dla } x \leq 2l \\ 2.6l - 0.62x + 0.029 \frac{x^2}{l} - 0.019 \frac{x^3}{l^2} & \text{dla } x > 2l \end{cases}$

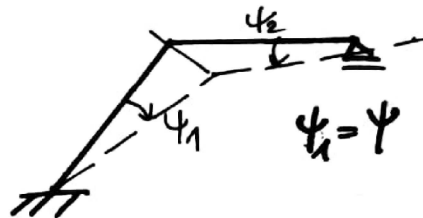
$LW M_x = W(y)$



$q = \begin{bmatrix} \varphi_1 \\ \psi \end{bmatrix}$

1) $\phi_1^1 + \phi_1^2 = 0$

2) $(\phi_A^1 + \phi_1^1) \bar{\psi}_1 + \phi_1^2 \bar{\psi}_2 = 0$



$\psi_1 = \psi, \psi_2 = -\frac{3}{5}\psi$

$\phi_1^{02} = \frac{2EI}{5l} (-\beta_1) = -\frac{9}{25} \frac{EI}{l}$

$\phi_1^1 = \frac{2EI}{5l} (2\psi_1 - 3\psi)$

$\phi_A^1 = \frac{2EI}{5l} (\psi_1 - 3\psi)$

$\phi_1^2 = \frac{3EI}{5l} (\psi_1 + \frac{3}{5}\psi) + \phi_1^{02}$

$\begin{pmatrix} \frac{7}{5} & -\frac{21}{25} \\ -\frac{21}{25} & \frac{325}{125} \end{pmatrix} \begin{pmatrix} \varphi_1 \\ \psi \end{pmatrix} = \begin{pmatrix} \frac{9}{25} \\ \frac{27}{125} \end{pmatrix} \rightarrow \begin{cases} \varphi_1 = 0.380 \\ \psi = 0.105 \end{cases}$