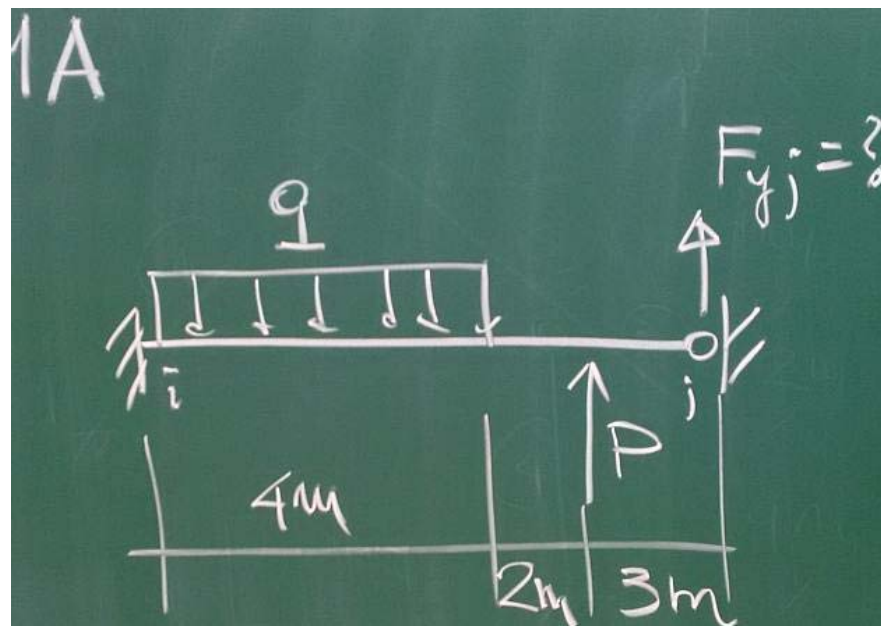
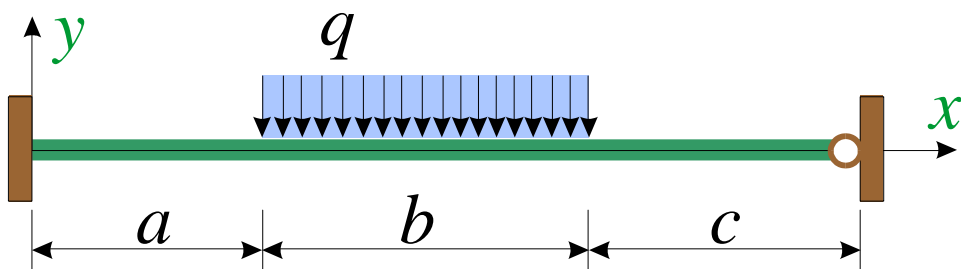


Grupa 1A

$$a := 0\text{m} \quad b := 4\text{m} \quad c := 5\text{m} \quad L := a + b + c$$

$$\xi_1 := \frac{a}{L} = 0 \quad \xi_2 := \frac{a+b}{L} = 0.444444$$

$$q := 2 \frac{\text{kN}}{\text{m}} \quad P := 3\text{kN} \quad \xi_P := \frac{6\text{m}}{L} = 0.666667$$



Równanie pracy wirtualnej

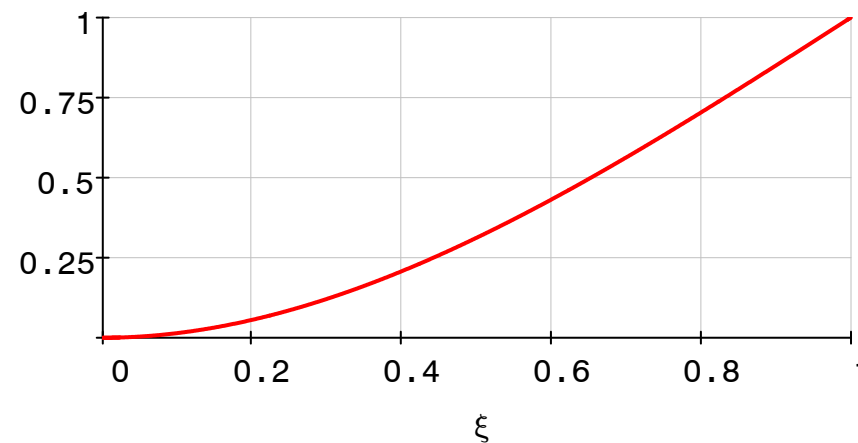
$$F_{yj} \cdot 1 + P \cdot G_{0010}(\xi_P) - q \cdot L \cdot \int_{\xi_1}^{\xi_2} G_{0010}(\xi) d\xi = 0$$

$$F_{yj} := q \cdot L \cdot \int_{\xi_1}^{\xi_2} G_{0010}(\xi) d\xi - P \cdot G_{0010}(\xi_P)$$

$$F_{yj} = -0.85322 \cdot \text{kN}$$

$$G_{0010}(\xi) := \frac{\xi^2}{2} \cdot (3 - \xi)$$

$G_{0010}(\xi)$



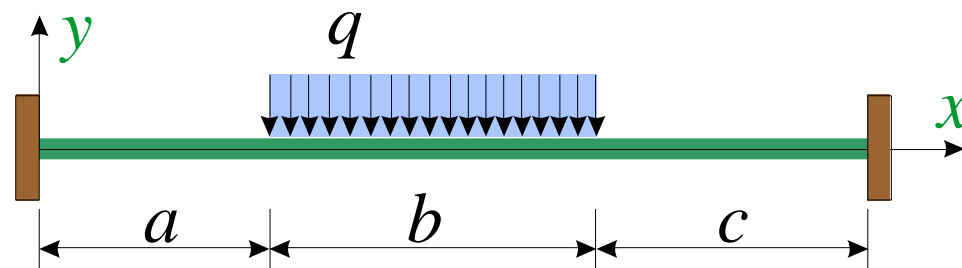
Definicja wielomianów Hermite'a dla belki obustronnie sztywno zamocowanej

$$H1000(\xi) := 1 - 3 \cdot \xi^2 + 2 \cdot \xi^3$$

$$H0100(\xi) := \xi \cdot (1 - 2 \cdot \xi + \xi^2)$$

$$H0010(\xi) := \xi^2 \cdot (3 - 2 \cdot \xi)$$

$$H0001(\xi) := -\xi^2 \cdot (1 - \xi)$$



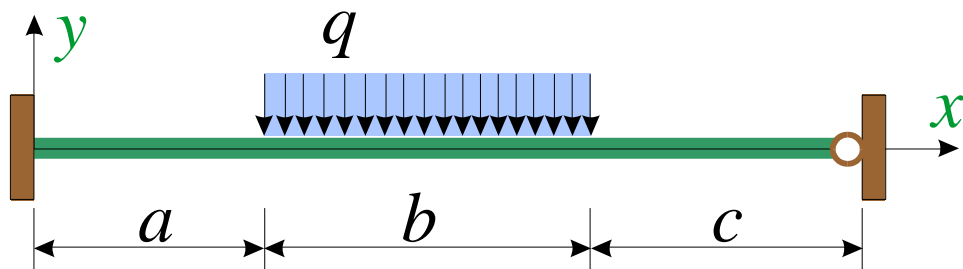
Definicja wielomianów Hermite'a dla belki zamocowanej przegubowo:

na prawej podporze - $G(\xi)$

$$G1000(\xi) := 1 - \frac{3}{2} \cdot \xi^2 + \frac{1}{2} \cdot \xi^3$$

$$G0100(\xi) := \frac{\xi}{2} \cdot (2 - 3 \cdot \xi + \xi^2)$$

$$\text{G0010}(\xi) := \frac{\xi^2}{2} \cdot (3 - \xi)$$

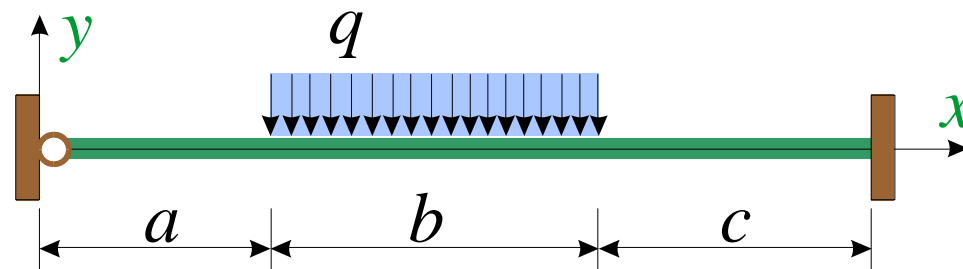


na lewej podporze - $K(\xi)$

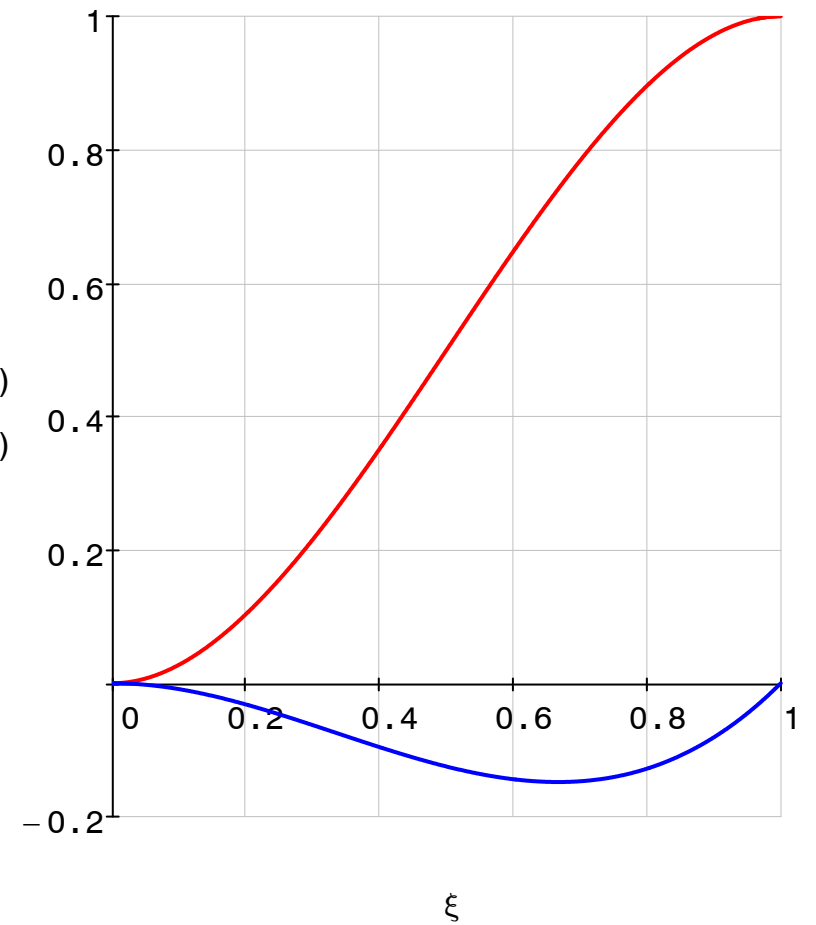
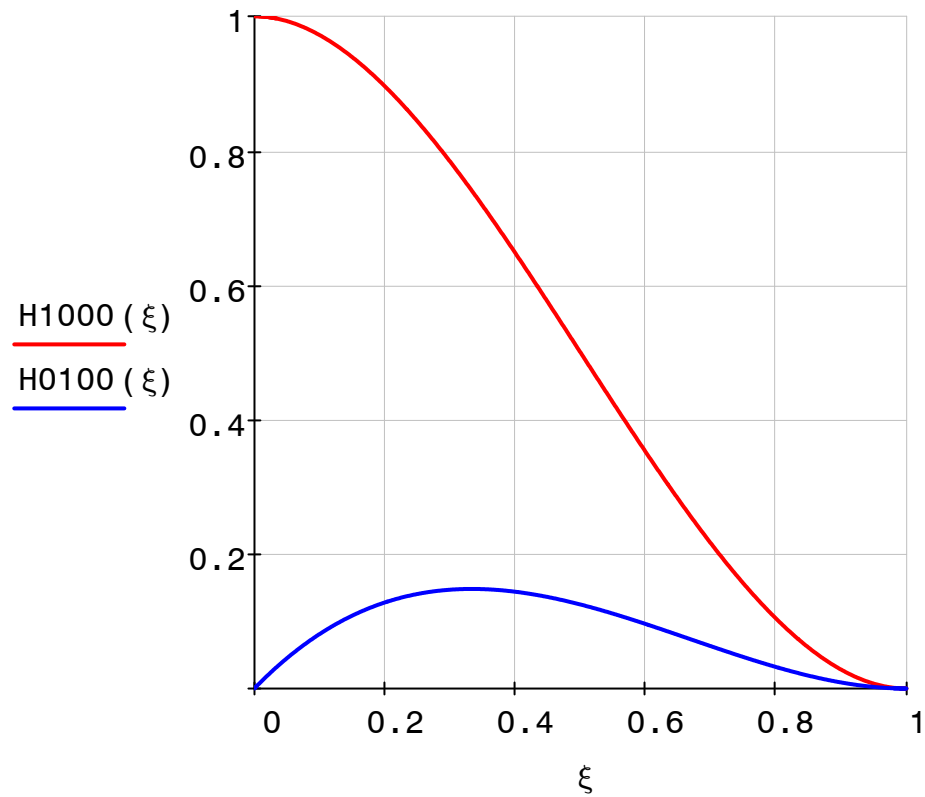
$$K1000(\xi) := \frac{1}{2} \xi^3 - \frac{3}{2} \xi + 1$$

$$K0010(\xi) := \frac{\xi}{2} \cdot (3 - \xi^2)$$

$$K0001(\xi) := \frac{\xi}{2} \cdot (\xi^2 - 1)$$



Wykresy wielomianów Hermite'a dla belki obustronnie sztywno zamocowanej



*Wykresy wielomianów Hermite'a dla belki zamocowanej przegubowo:
na prawej podporze - $G(\xi)$ lewej podporze - $K(\xi)$*

