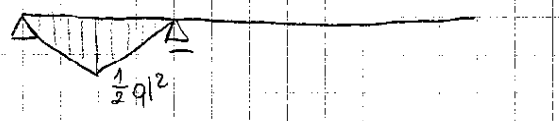
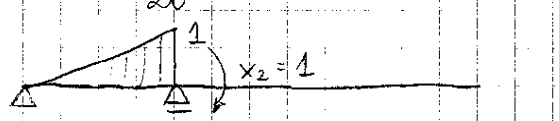
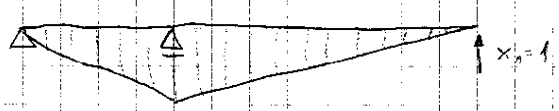
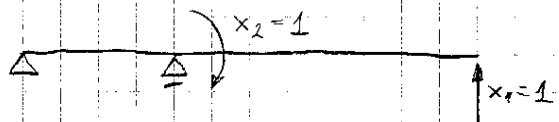


$$\Delta l = 3 \frac{EJ}{EI}$$

$$k = 1 \frac{EJ}{l^3}$$



$$\delta_{11} = \frac{1}{EJ} \left[\frac{1}{2} \cdot 2l \cdot l \cdot \left(\frac{2}{3} \cdot 2l \right) + \frac{1}{2} \cdot 2l \cdot 2l \cdot \left(\frac{2}{3} \cdot 2l \right) \right] + \frac{1}{1 \frac{EJ}{l^3}} \cdot 1 \cdot 1 = 5 \frac{l^3}{EJ}$$

$$\delta_{12} = \frac{1}{EJ} \left[\frac{1}{2} \cdot 1 \cdot l \cdot \left(-\frac{2}{3} \cdot 2l \right) \right] = -\frac{2}{3} \frac{l^2}{EJ}$$

$$\delta_{21} = \frac{1}{EJ} \left[\frac{1}{2} \cdot 2l \cdot l \cdot \left(-\frac{2}{3} \cdot 1 \right) \right] = -\frac{2}{3} \frac{l^2}{EJ}$$

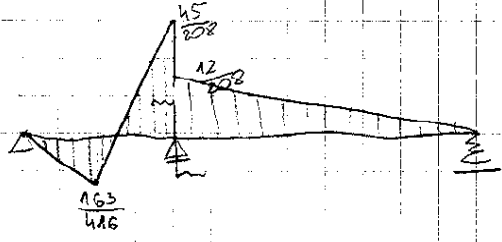
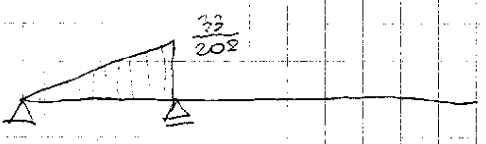
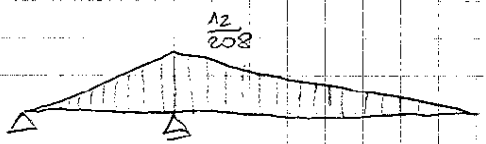
$$\delta_{22} = \frac{1}{EJ} \left[\frac{1}{2} \cdot 1 \cdot l \cdot \left(\frac{2}{3} \cdot 1 \right) \right] + \frac{1}{3 \frac{EJ}{l}} \cdot 1 \cdot 1 = \frac{2}{3} \frac{l}{EJ}$$

$$M_2 \quad \Delta_{1P} = \frac{1}{EJ} \left[\frac{1}{2} \cdot \frac{1}{2} ql^2 \cdot \frac{1}{2} l \cdot \left(\frac{1}{3} \cdot 2l \right) + \frac{1}{2} \cdot \frac{1}{2} ql^2 \cdot \frac{1}{2} l \cdot \left(\frac{2}{3} \cdot 2l \right) \right] = \frac{1}{4} \frac{ql^4}{EJ}$$

$$M_P \quad \Delta_{2P} = \frac{1}{EJ} \left[\frac{1}{2} \cdot \frac{1}{2} ql^2 \cdot \frac{1}{2} l \cdot \left(-\frac{1}{3} \cdot 1 \right) + \frac{1}{2} \cdot \frac{1}{2} ql^2 \cdot \frac{1}{2} l \cdot \left(\frac{2}{3} \cdot 1 \right) \right] = -\frac{1}{8} \frac{ql^3}{EJ}$$

$$\begin{cases} 5 \frac{l^3}{EJ} x_1 - \frac{2}{3} \frac{l^2}{EJ} x_2 + \frac{1}{4} \frac{ql^4}{EJ} = 0 \\ -\frac{2}{3} \frac{l^2}{EJ} x_1 + \frac{2}{3} \frac{l}{EJ} x_2 - \frac{1}{8} \frac{ql^3}{EJ} = 0 \end{cases}$$

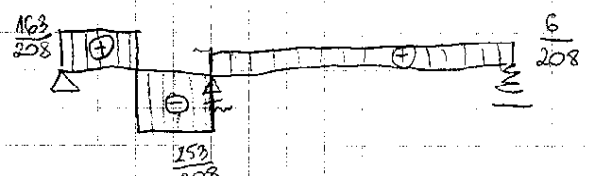
$$\Rightarrow \begin{cases} x_1 = -\frac{3}{104} ql = -\frac{6}{208} ql \\ x_2 = \frac{33}{208} ql^2 \end{cases}$$



$$\downarrow \frac{15}{208} \quad \uparrow \frac{15}{208}$$

$$\uparrow 1 = \frac{163}{208} \quad \uparrow 1 = \frac{208}{208}$$

$$\uparrow \frac{163}{208} \quad \uparrow \frac{253}{208}$$



$$[ql]$$