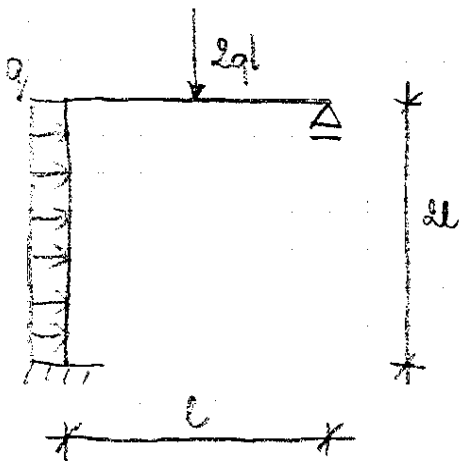
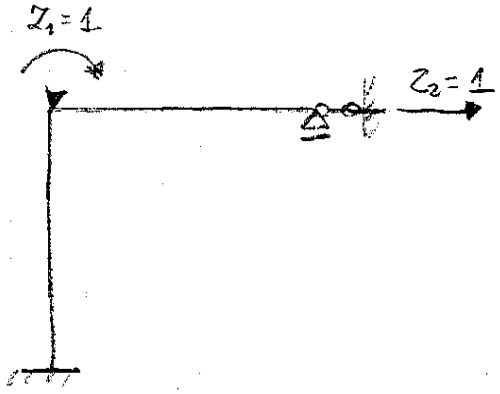
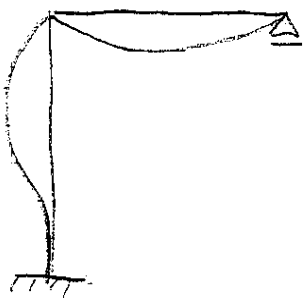
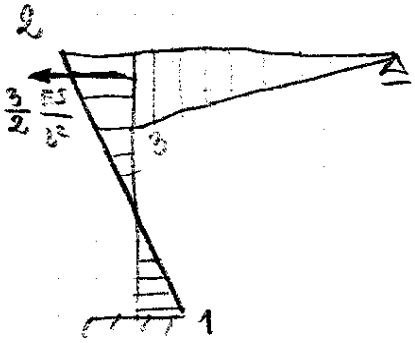


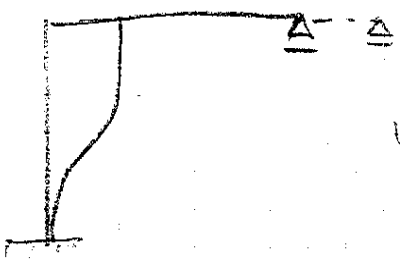




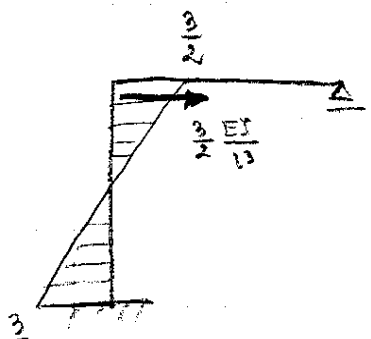
φ_1



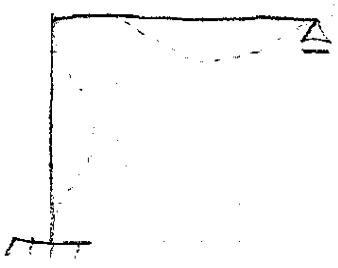
$M_1 \left[\frac{EJ}{l}\right]$



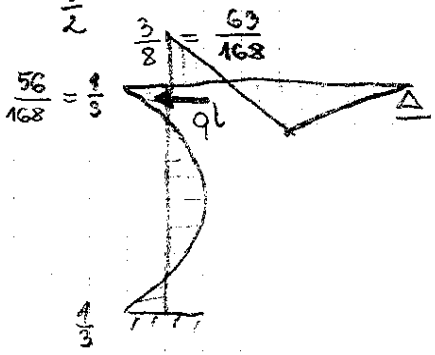
φ_2



$M_2 \left[\frac{EJ}{l^2}\right]$



φ_P



$M_P \left[ql^2\right]$

$r_{11} = 5\frac{EJ}{l} \qquad r_{12} = -\frac{3}{2}\frac{EJ}{l^2}$

$r_{21} = -\frac{3}{2}\frac{EJ}{l^2} \qquad r_{22} = \frac{3}{2}\frac{EJ}{l^3}$

$R_{1P} = \frac{1}{3} - \frac{3}{8} = \frac{8}{24} - \frac{9}{24} = -\frac{1}{24}\,ql^2$

$R_{2P} = -ql$

$5 \cdot Z_1 - \frac{3}{2} \cdot Z_2 - \frac{1}{24} = 0$

$+ \quad -\frac{3}{2} Z_1 + \frac{3}{2} \cdot Z_2 - 1 = 0$

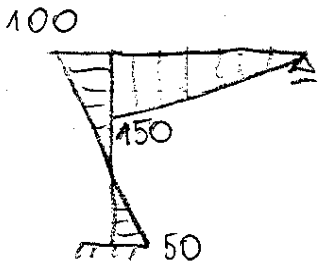
$\frac{3}{2} Z_1 = \frac{25}{24}$

$Z_1 = \frac{25}{24} \cdot \frac{2}{3} = \frac{25}{84}\,\frac{ql^3}{EJ}$

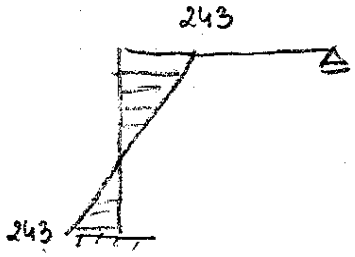
$-\frac{3}{2} \cdot \frac{25}{84} + \frac{3}{2} Z_2 - 1 = 0$

$\frac{3}{2} \cdot Z_2 = 1 + \frac{25}{56} = \frac{81}{56}$

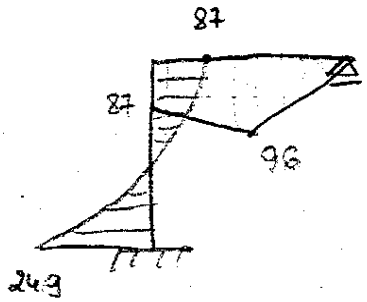
$Z_2 = \frac{81}{56} \cdot \frac{2}{3} = \frac{27}{28} = \frac{81}{84}\,\frac{ql^4}{EJ}$



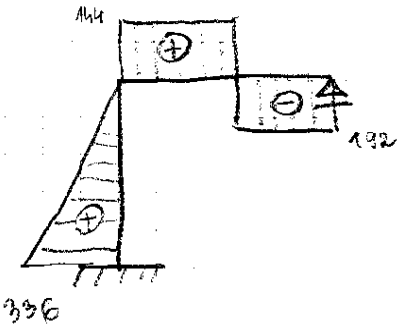
$M_1 \cdot Z_1 \left[\times \frac{1}{168} q l^2 \right]$



$M_2 \cdot Z_2 \left[\times \frac{1}{168} \right]$



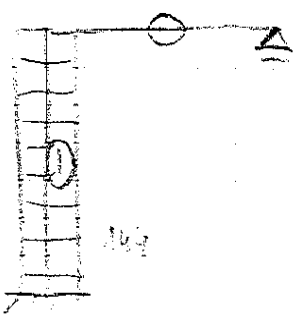
$M \left[q l^2 \times \frac{1}{168} \right]$



$T \left[\times \frac{1}{168} q l \right]$

$\downarrow \frac{87}{168}$ $\uparrow \frac{81}{168}$

$\uparrow \frac{11}{8} = \frac{231}{168}$ $\uparrow \frac{5}{8} = \frac{105}{168}$



$N \left[q l \times \frac{1}{168} \right]$