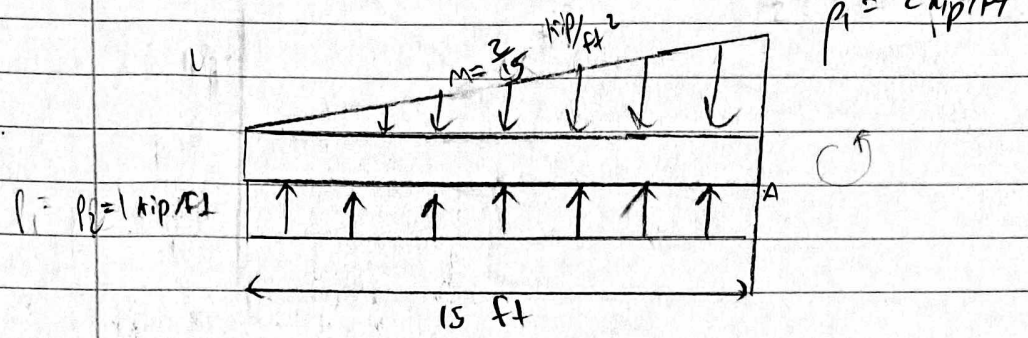
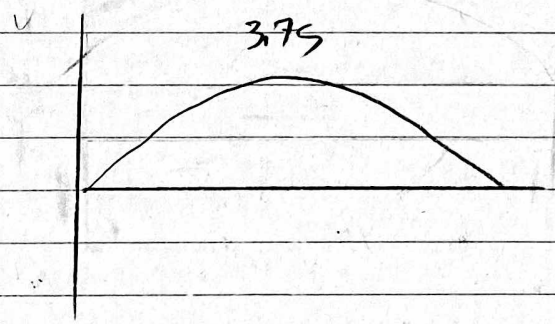
Solutias: 21-S 7.3- MK-08



$\Sigma f_y = (15\,ft)(1\,kip/ft) - (2\,kip/ft)(15\,ft)\left(\frac{1}{2}\right) - A_y = 0 \rightarrow A_y = 0$

$\circlearrowleft \quad \Sigma M = -(15\,ft)(1\,kip/ft)\left(\frac{15\,ft}{2}\right) + (2\,kip/ft)(15\,ft)\left(\frac{1}{2}\right)\left(\frac{1}{3}\right)(15\,ft) + M_A$

$M_A = -37.5$ G kN/m

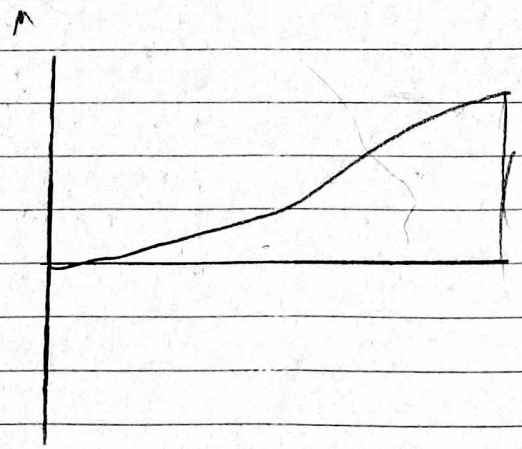


$V_A = 0$

$V_B = 0 + \int -\frac{2}{15}x + 1$

$V_B = 1x - \frac{x^2}{15}$

$max = 1 - \frac{2x}{15} = 0 \rightarrow x = 7.5\,m$



$M_B = \int 1x - \frac{x^2}{15}$

$M_B = \int \frac{x^2}{2} - \frac{x^3}{45}$

$M_x = \frac{7.5^2}{2} - \frac{7.5^3}{45}$

$M_x = 18.75$ kNm