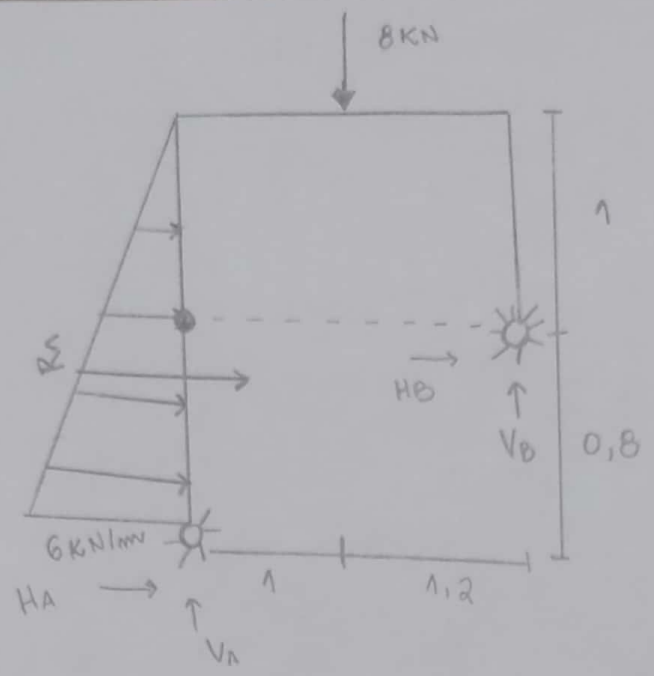
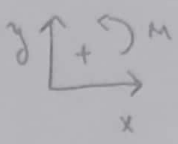
(2)




$\Sigma F_x = 0$

$R_1 = \frac{6\,KN/m \cdot 1,8\,m}{2} = 5,4\,KN$

Então: $H_A + H_B + 5,4 = 0$

$\boxed{H_A + H_B = -5,4}$

$\Sigma F_y = 0$

$V_A + V_B - 8 = 0$

$\boxed{V_A + V_B = 8}$

$\Sigma M_A = 0$

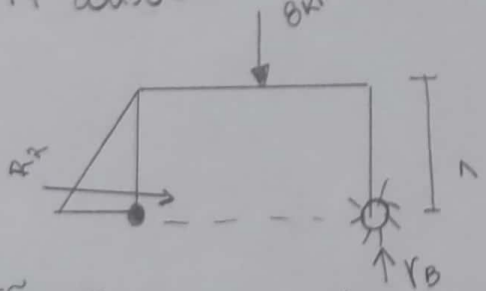
$(-5,4 \cdot 0,6) + (-8 \cdot 1) + (V_B \cdot 2,2) + (-H_B \cdot 0,8) = 0$

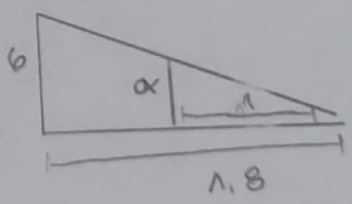
$-3,24 - 8 + 2,2\,V_B - 0,8\,H_B = 0$

$\boxed{2,2\,V_B - 0,8\,H_B = 11,24}$

Eq auxiliar:

$\Sigma M$ adjacent $= 0$




$\frac{6}{1,8} = \frac{q}{1}$

$1,8q = 6$

$q = \frac{6}{1,8}$

$q = 3,33\,KN/m$

Então $R_2 = \frac{3,33 \cdot 1}{2} = 1,67\,KN$

$(-1,63 \cdot 0,33) + (-8 \cdot 1) + (V_B \cdot 2,2) = 0$

$-0,54 - 8 + 2,2\,V_B = 0 \rightarrow \boxed{V_B = 3,89\,KN}$

Voltando Eq. anteriores:

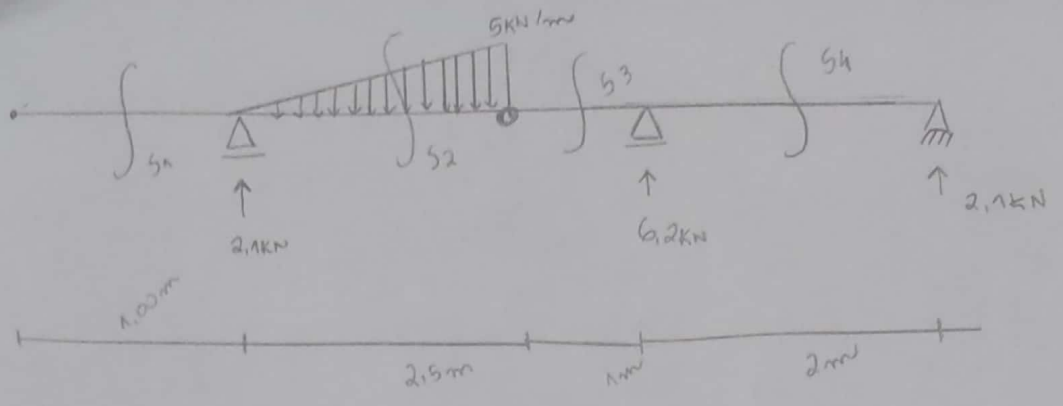
$V_A = 8 - 3,89 \Rightarrow \boxed{V_A = 4,11\,KN}$

$-0,8\,H_B = 11,24 - (2,2 \cdot 3,89) \rightarrow \boxed{H_B = -3,36\,KN}$

$H_A = -5,4 + 3,36$

$\boxed{H_A = -2,04}$

3

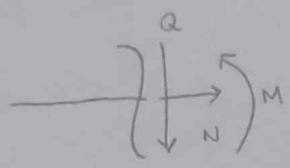



S1 $0 \leq X \leq 1$

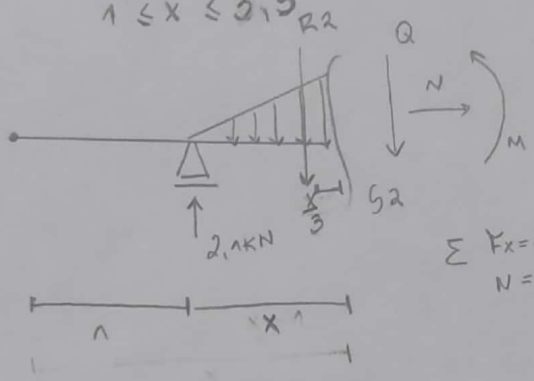
$\Sigma F_x = 0 \; : \; N = 0$

$\Sigma F_y = 0 \; : \; Q = 0$

$\Sigma M_{S2} = 0 \quad M_{S1} = 0$

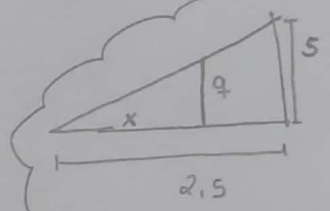



S2 $1 \leq X \leq 3,5$




$\Sigma F_x = 0$

$N = 0$




$\frac{5}{2,5} = \frac{q}{x} \quad 2,5q = 5x \quad q = 2x$

$R_2 = \frac{2x \cdot x}{2} = \frac{2x^2}{2} = x^2$

$\Sigma F_y = 0 \quad -2,1 + x^2 + Q_2 = 0$

$\boxed{Q_2 = -x^2 + 2,1}$

$Q_2 \begin{cases} x = 1 \rightarrow Q_2 = 3,1KN \\ x = 3,5 \rightarrow Q_2 = 14,35KN \end{cases}$

$\Sigma M_{S2} = 0 \quad \left( x^2 \cdot \frac{x}{3} - 2,1x + M \right) = 0$

$\boxed{M_2 = -\frac{x^3}{3} + 2,1x}$

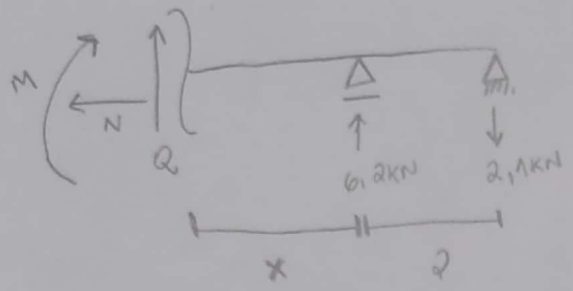
$M_2 \begin{cases} x = 1 \rightarrow M_2 = -\frac{1}{3} + 2,1 = 1,77KNm \\ x = 3,5 \rightarrow M_2 = -14,29 + 2,1 = -12,19KNm \end{cases}$

(S3) $2 \leq x \leq 3$

$\Sigma F_x = 0 \quad N = 0$

$\Sigma F_y = 0 \quad Q + 6,2 - 2,1 = 0$

$\boxed{Q_{(3)} = -4,1\,KN}$




$\Sigma M_{(S3)} = 0$

$M + (2,1 \cdot (2+x)) + (-6,2 \cdot x) = 0$

$M + 4,2 + 2,1x - 6,2x = 0$

$\boxed{M_{(S3)} = 4,1x - 4,2}$

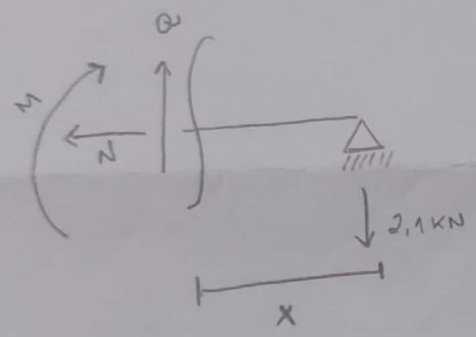
$M_{(S3)}$ $\begin{cases} M = 2 \Rightarrow M = -4\,KN_M \\ M = 3 \rightarrow M = 8,1\,KN \end{cases}$

(S4) $0 \leq x \leq 2$

$\Sigma F_x = 0 \quad N = 0$

$\Sigma F_y = 0 \quad Q - 2,1\,KN$

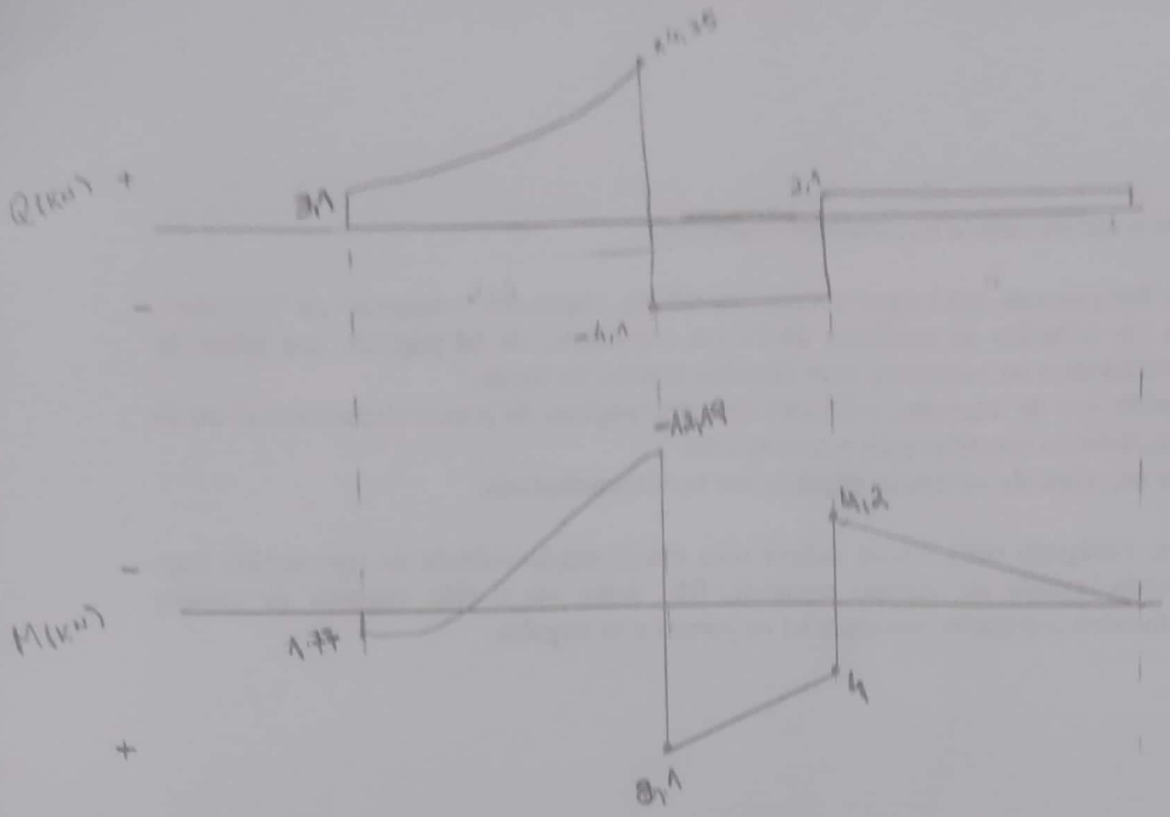
$\boxed{Q_{(4)} = 2,1\,KN}$




$\Sigma M_{(S4)} = 0 \quad M + (2,1x) = 0$

$\boxed{M = -2,1x}$

$M_{(S4)}$ : $\begin{cases} M = 0 \rightarrow M = 0 \\ M = 2 \rightarrow M = -4,2\,KN \end{cases}$




(1)

I - F

II - V

III - V

IV - F

Desta forma letra (e)