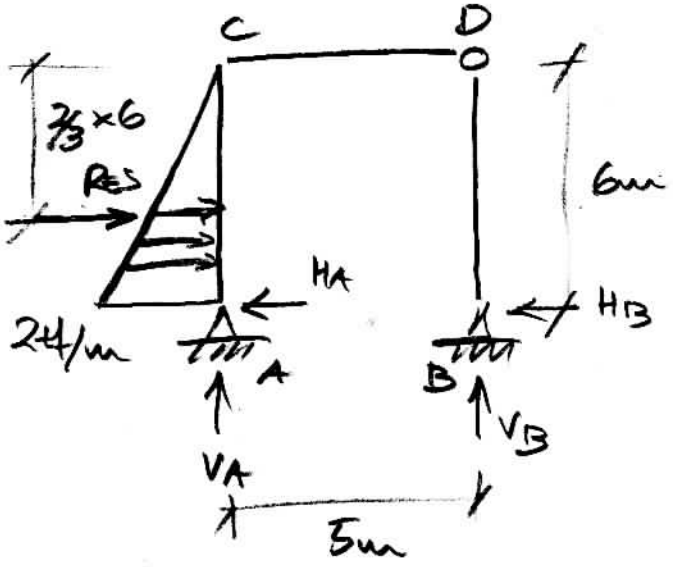
TE1-4.4



$\oplus \circlearrowleft \Sigma M_D^{DB} = 0 \qquad H_B = 0$

$RES = 24\,t/m \times 6m \times 1/2 = 6t$

$\oplus \rightarrow \Sigma F_H = 0 \qquad H_A = 6t \leftarrow$

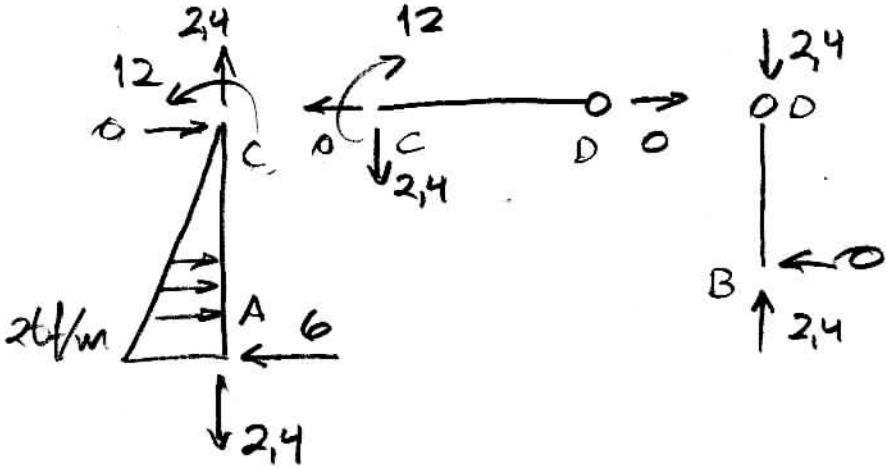
$\oplus \circlearrowleft \Sigma M_B = 0$

$V_A \times 5 + RES \times 1/3 \times 6 = 0$

$V_A = 1/5 (-6 \times 1/3 \times 6) = -2{,}4t$

$V_A = 2{,}4t \downarrow$

$\oplus \uparrow \Sigma F_V = 0 \qquad V_B = -V_A = 2{,}4t \uparrow$



$M_C = 2{,}4 \times 5 = 12\,t/m$

$q_{AC}(x_1) = 2 - 2/6\,x$

$Q_{AC}(x_1) = -\int q_{AC}(x_1)\,dx = -2x_1 + 2/6\,x_{1/2}^2 + C_1$

como $Q_{AC}(x_1 = 0) = 6 \qquad C_1 = 6$

$Q_{AC}(x_1) = +1/6\,x_1^2 - 2x_1 + 6$

(=)

$$M_{AC}(x_1) = \int Q_{AC}(x_1)\,dx = \frac{1}{6}\frac{x_1^3}{3} - 2\frac{x_1^2}{2} + 6x_1 + C_2$$

como $M_{AC}(x_1=0) = 0$ $\quad C_2 = 0$

$$M_{AC}(x_1) = \frac{1}{18}x_1^3 - x_1^2 + 6x_1$$

$$M_{AC}(x_1=6) = \frac{1}{18}\times 6^3 - 6^2 + 6\times 6 = 12\ tf\,m \quad \text{CQD}$$

$$M_{AC}(x_1=\tfrac{1}{3}6) = \frac{1}{18}\times 2^3 - 2^2 + 6\times 2 = +8{,}444\ tf\,m$$

$$M_{AC}(x_1=\tfrac{2}{3}6) = \frac{1}{18}\times 4^3 - 4^2 + 6\times 4 = 11{,}556\ tf\,m$$

$$M_{CD}(x_2) = 12 - 2{,}4x_2$$

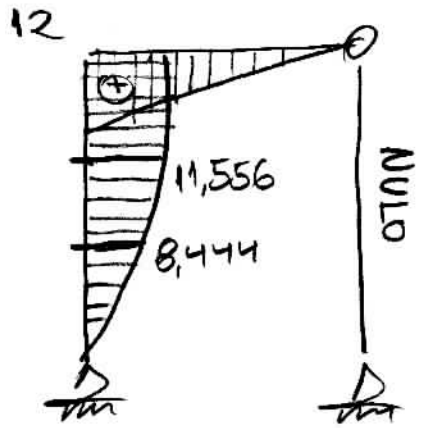
$$Q_{CD}(x_2) = dM_{CD}(x_2)/dx_2 = -2{,}4$$

$$M_{CD}(x_3) = Q_{CD}(x_3) = 0$$

$$Q_{AC}(x_1=3) = \frac{1}{6}\times 3^2 - 2\times 3 + 6$$

$$Q_{AC}(x_1=3) = 1{,}5$$

(M) tf m



(Q)

