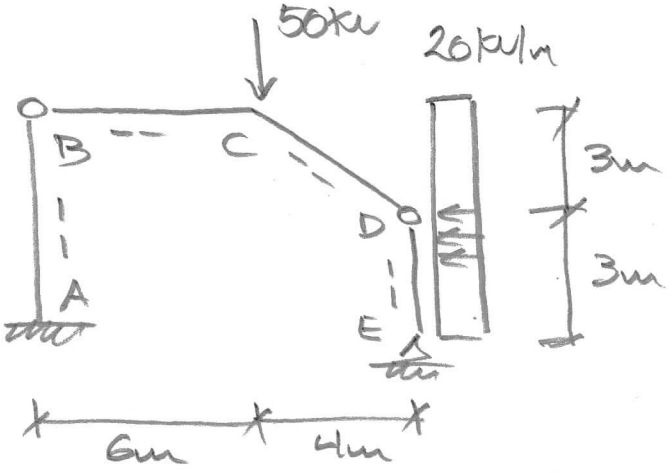
B2T4NA 0510

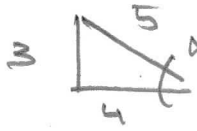
PEDE-SE PARA O MEIO DA BARRA CD;

Q01) M

Q02) V

Q03) N



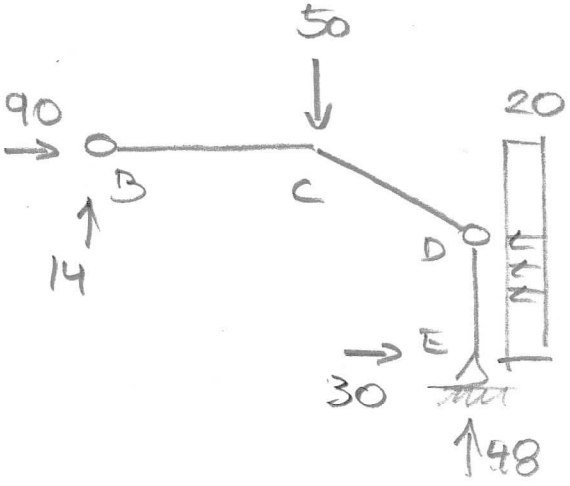


$\cos\alpha = 4/5$

$\operatorname{sen}\alpha = 3/5$

$\circlearrowleft \Sigma M_{D\to E} = 0 \quad H_E \times 3 - 20 \times 3^2/2 = 0$

$H_E = 1/3\,(20 \times 3^2/2) = 30\,kN \rightarrow$



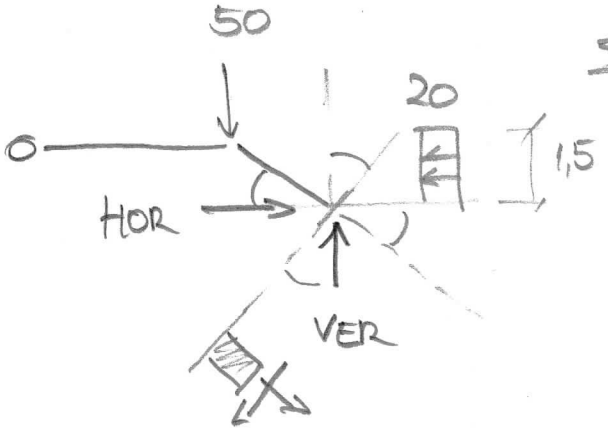
$\rightarrow \Sigma F_H = 0 \quad H_B + 30 - 20 \times 6 = 0$

$H_B = 120 - 30 = 90\,kN \rightarrow$

$\circlearrowleft \Sigma M_B = 0 \quad V_E \times 10 + 30 \times 6 - 50 \times 6 - 20 \times 6^2/2 = 0$

$V_E = 1/10\,(-180 + 300 + 360) = 48\,kN \uparrow$

$\Sigma F_H = 0 \quad V_B = 2\,kN \uparrow$



$HOR = +30 - 20 \times 4{,}5 = -60\,kN$

$VER = 48\,kN$

$V = -HOR \times 3/5 - VER \times 4/5 = -(-60).3/5 - 48 \times 4/5 = -2{,}4\,kN$

$N = +HOR \times 4/5 - VER \times 3/5 = -60 \times 4/5 - 48 \times 3/5 = -76{,}8\,kN$

$M = 30 \times 4{,}5 + 48 \times 2{,}0 - 20 \times 4{,}5^2/2 = +28{,}5\,kNm$