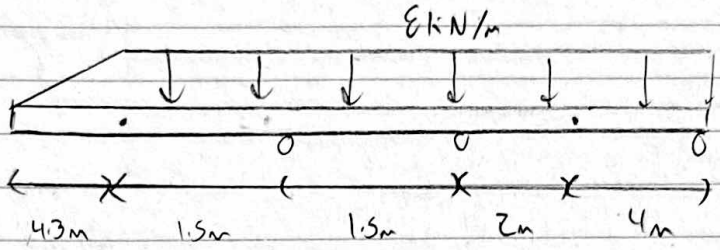
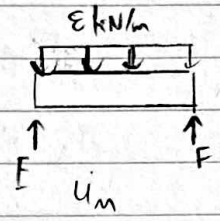
Solutions: 21-S-4.9-MK-07



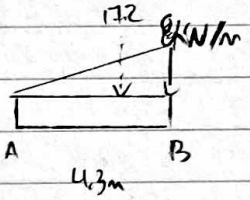
EF



$(8\,kN/m)(4\,m) = 32\,kN$

$\therefore$ E & F = 16 kN

AB

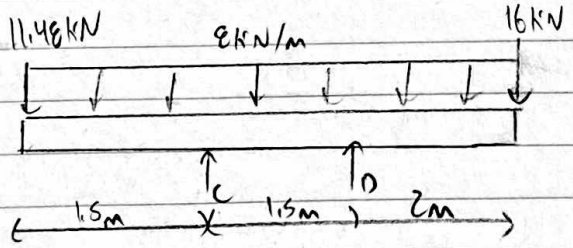


$P = (4.3\,m)(8\,kN/m)\left(\frac{1}{2}\right) = 17.2\,kN$ @ 2.87 m

$\Sigma M_A = -(17.2\,kN)(2.87\,m) + B_y(4.3) \rightarrow B_y = 11.48\,kN$

$\Sigma F = A + B - 17.2 \rightarrow A = 17.2 - 11.48$ $A = 5.72\,kN$

BE



$\Sigma M_C = 0 = (11.48\,kN)(1.5\,m) - (8\,kN)(1.5+1.5+2\,m)\left(\frac{1.5+1.5+2\,m}{2} - 1.5\right) - (16\,kN)(1.5+2) + D(1.5)$

$D = \dfrac{(8\,kN)(5\,m)(1\,m) + (16)(3.5) - (11.48)(1.5)}{1.5} = 52.52\,kN$

$\Sigma F = C + 52.52 - 11.48 - 16 - 8(5) \rightarrow C = 14.96\,kN$