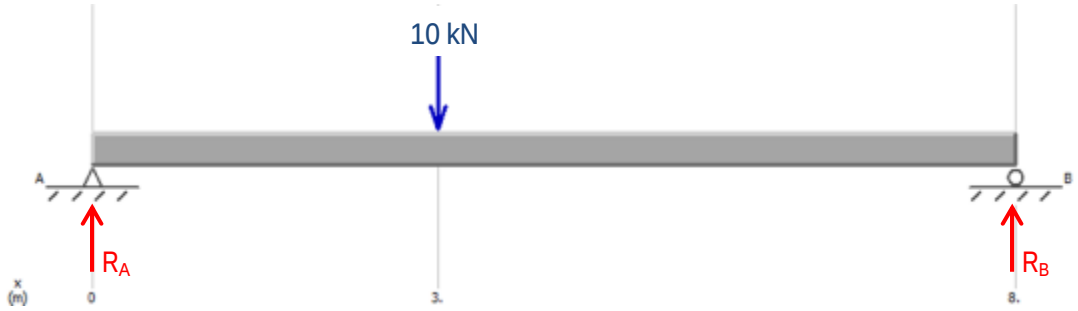
SOLUTION

Problem 1)



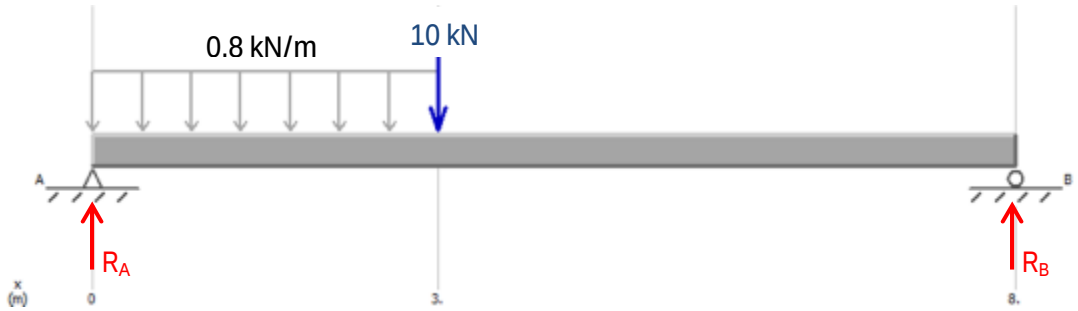
$\Sigma M_B = (10\ kN)(5\ m) - (R_A)(8\ m) = 0$

$\therefore R_A = 6.25\ kN \uparrow$

$\Sigma F_y = R_A + R_B - 10\ kN = 6.25\ kN + R_B - 10\ kN = 0$

$\therefore R_B = 3.75\ kN \uparrow$

Problem 2)



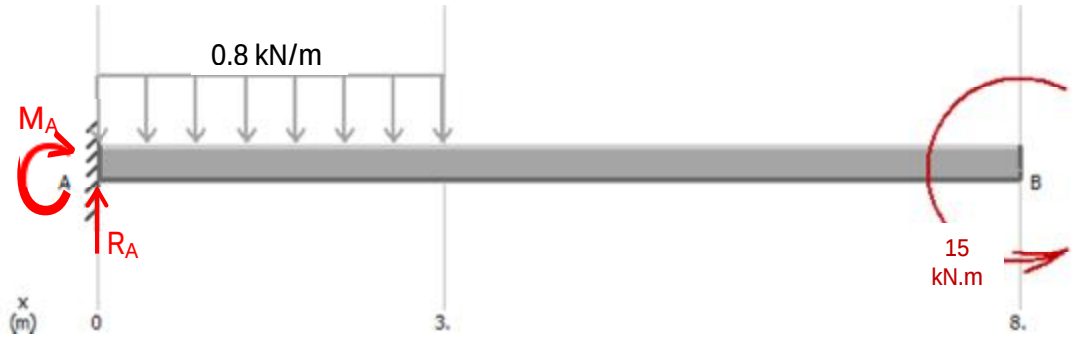
$\Sigma M_B = (10\ kN)(5\ m) + (0.8\ kN/m)(3\ m)(6.5\ m) - (R_A)(8\ m) = 0$

$\therefore R_A = 8.2\ kN \uparrow$

$\Sigma F_y = R_A + R_B - 10\ kN - (0.8\ kN/m)(3\ m) = 8.2\ kN + R_B - 10\ kN - (0.8\ kN/m)(3\ m) = 0$

$\therefore R_B = 4.2\ kN \uparrow$

Problem 3)



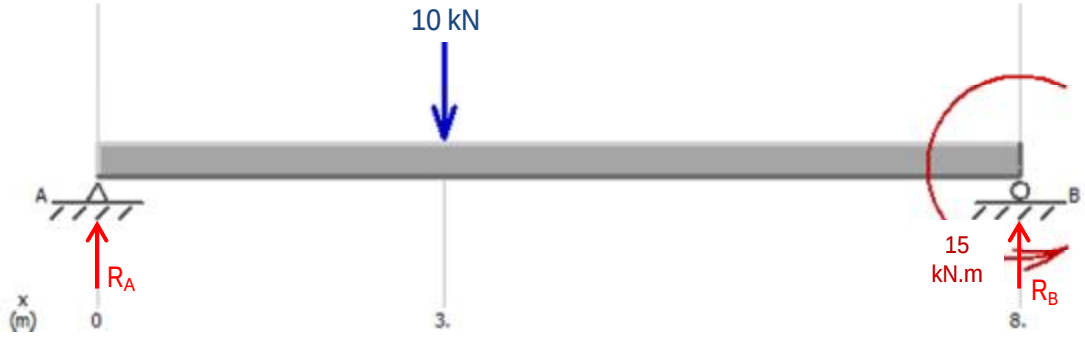
$\Sigma M_A = 15\ kN.m - (0.8\ kN/m)(3\ m)(1.5\ m) - M_A = 0$

$\therefore M_A = 11.4\ kN.m\ (cw)$

$\Sigma F_y = R_A - (0.8\ kN/m)(3\ m) = 0$

$\therefore R_A = 2.4\ kN \uparrow$

Problem 4)



$\Sigma M_B = 15\ kN.m + (10\ kN)(5\ m) - (R_A)(8\ m) = 0$

$\therefore R_A = 8.125\ kN \uparrow$

$\Sigma F_y = R_A + R_B - 10\ kN = 0$

$\therefore R_B = 1.875\ kN \uparrow$

Problem 5)

$\Sigma M_B = 15\ kN.m - (10\ kN)(1\ m) - (R_A)(3\ m) = 0$

$\therefore R_A = 1.67\ kN \uparrow$

$\Sigma F_y = R_A + R_B - 10\ kN = 0$

$\therefore R_B = 8.33\ kN \uparrow$