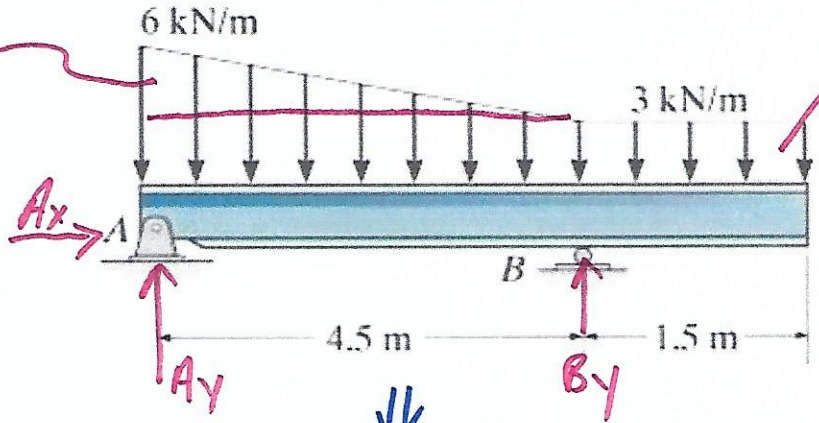
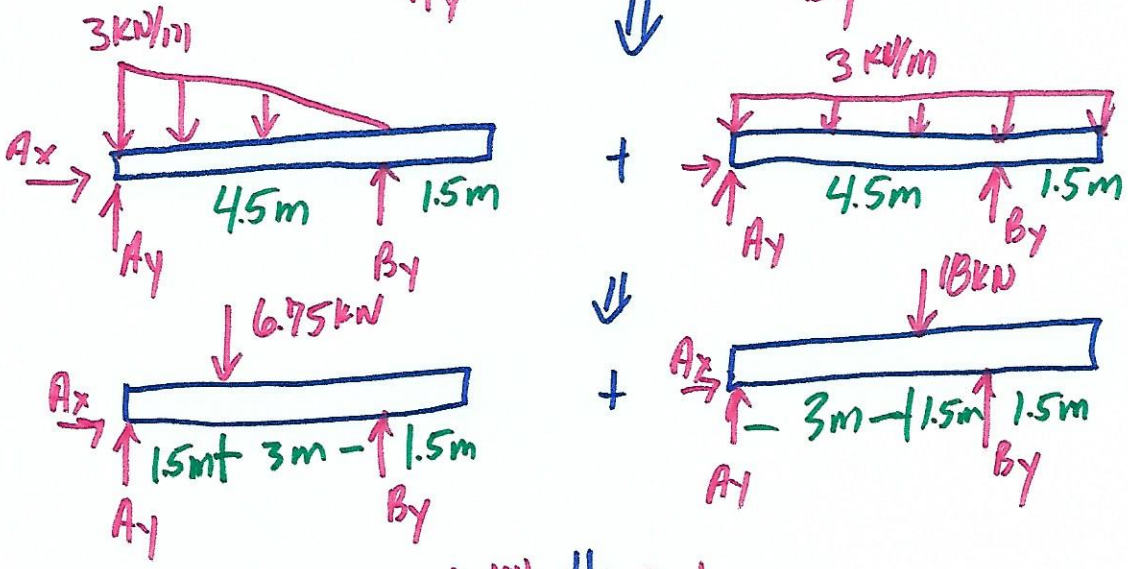
Distributed Loads

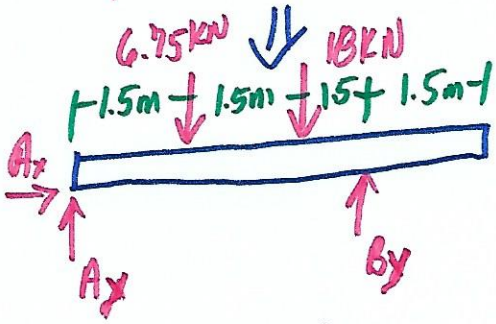
Determine the support reactions using superposition to simplify the distributed load.

$\frac{1}{2} \times 3\,kN/m \times 4.5\,m = 6.75\,kN$

$3\,kN/m \times 6\,m = 18\,kN$







$\rightarrow \Sigma F_x = 0 = A_x \qquad A_x = 0$

$\circlearrowright \Sigma M_A = 0 = 6.75(1.5) + 18(3) - 4.5B_y$

$\uparrow \Sigma F_y = 0 = A_y - 6.75 - 18 + B_y$

$A_x = 0$

$B_y = 14.25\,kN \uparrow$

$A_y = 10.5\,kN \uparrow$