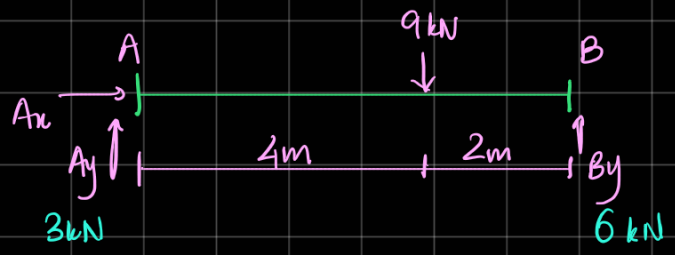
1.

$\sum M_A = 0$

$-9(4) + By(6) = 0$

$By = \frac{36}{6}$

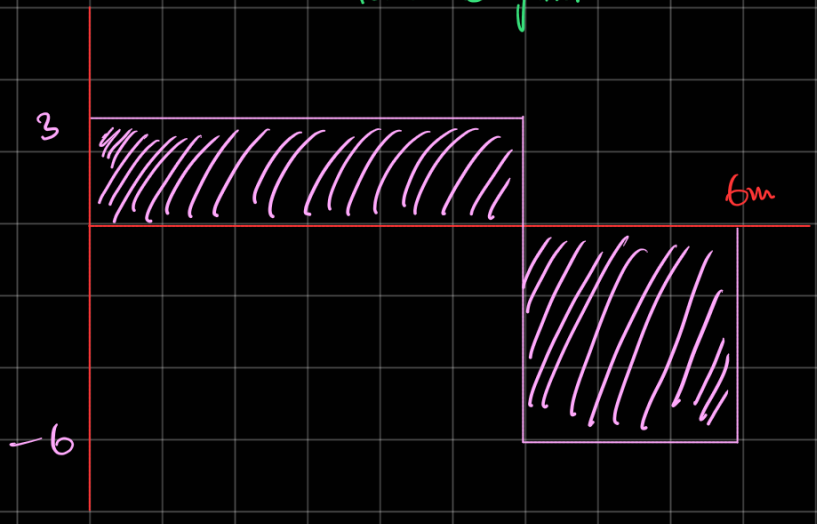
$By = 6\ kN$



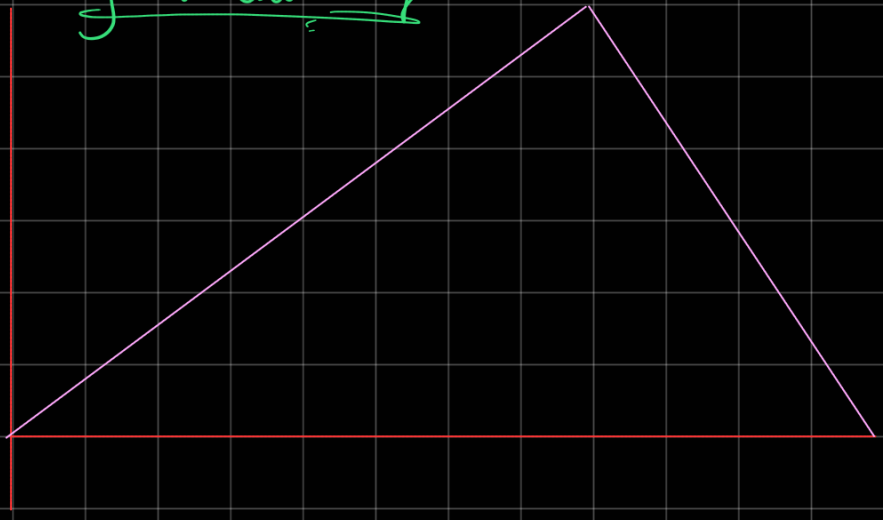
$Ay + By = 9\ kN$

$Ay = 3\ kN$

Shear Force Diagram



Bending Moment Diagram



2.

$\sum M_A = 0$

$M_A + 12 + 12 + 8 = 0$

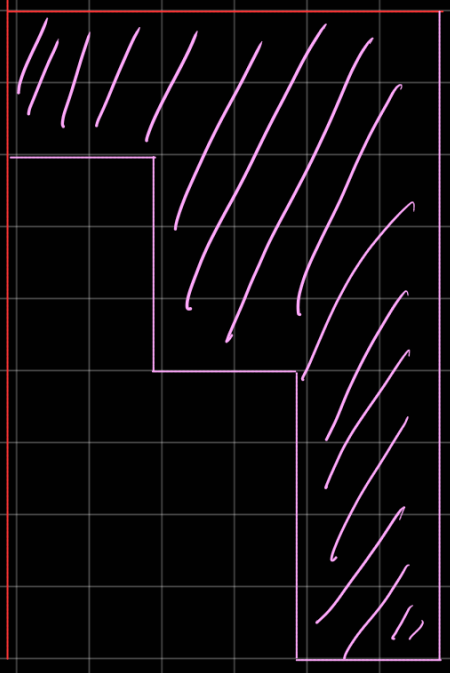
$M_A = -32$ kN m

$A_y = 4 + 6 + 8$

$= 18$ kN

Bending Moment Diagram

Shear Force Diagram

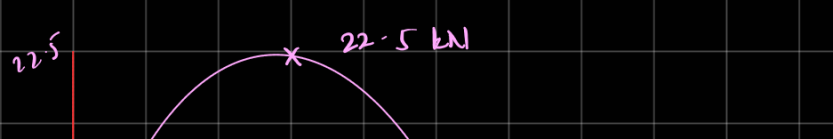


3.

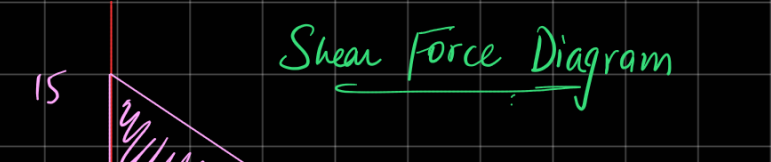
$\Sigma M_A = -30(3) + 6B_y = 0$

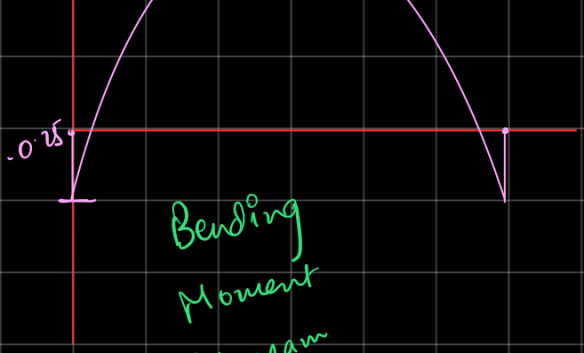
$B_y = 15$ kN

$A_y = 15$ kN

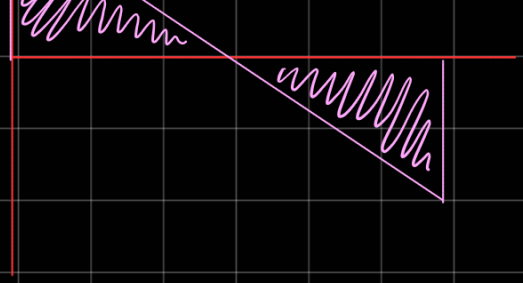


Shear Force Diagram





Bending Moment Diagram



$P(x) = -5$

$V(x) = -5x + 15$

$M(x) = \frac{-5}{2}x^2 + 15x - 0.25$

$M(6) = -0.25$

$M(3) = -22.5 + 45 - 0.25$

$= 22.25$