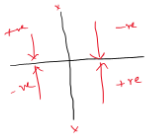
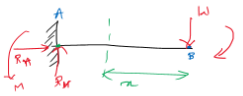
Sign convention for shear force

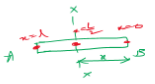


Bending moment:

C.W. → -ve

CCW → +ve





$R_V = -W$

$R_H = 0$

$M = -W \times L$

$SF_{xx} = -W$

@ $x = 0$ $SF_B = -W$

$x = L$ $SF_A = -W$

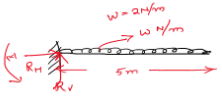
SFD

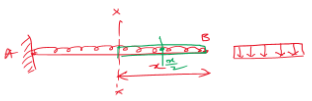
$BM_{xx} = -W \times x$

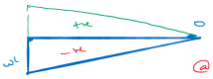
@ $x = 0$ $BM_B = 0$

$x = l$ $BM_A = -WL$

BMD







$SF_{xx} = -W \times$

@ $x = 0$ $SF_B = W \times 0 = 0$

$SF_A = W \times l = -Wl$

$BM_{x-x} = -(Wx)\frac{x}{2} = -\frac{Wx^2}{2}$

@ $x = 0$ $BM_B = 0$

$x = l$ $BM_A = -\frac{WL^2}{2}$