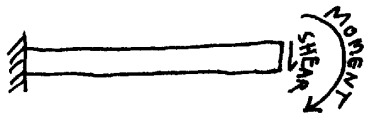


SHEAR & MOMENT DIAGRAMS

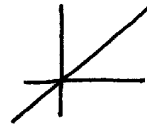


WHY?

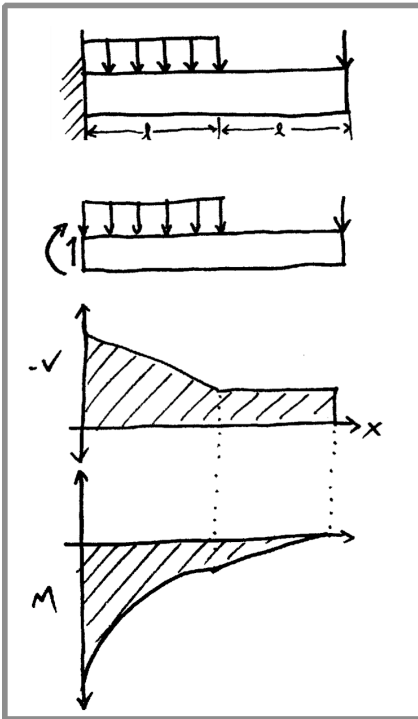
BY PLOTTING THESE DIAGRAM, WE CAN SEE WHERE THE MAX VALUES OF SHEAR FORCE AND BENDING MOMENT OCCUR

$V(x)$ = SHEAR FORCE CURVE

i.e.



$M(x)$ = BENDING MOMENT CURVE
integral of $V(x)$



1 THINK OF THE FREE BODY DIAGRAM

Where are the forces, reaction forces, and moments?



2 PLOT AND SKETCH DISTRIBUTED LOADS

The shear force curve is ONE ORDER HIGHER than the load curve. The moment curve is ONE ORDER HIGHER than the shear force curve.

if you have a distributed load $\uparrow\uparrow\uparrow F(x)=k$

The Shear diagram would look like $V(x)=kx+b$



The moment diagram would look like $m(x)=\frac{kx^2}{2}+bx+c$

