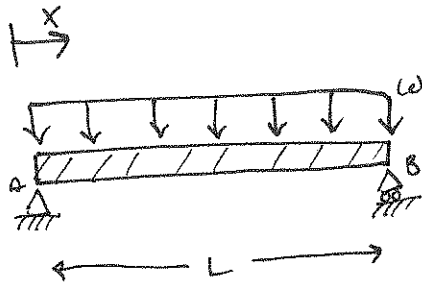


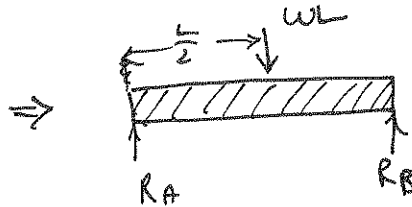
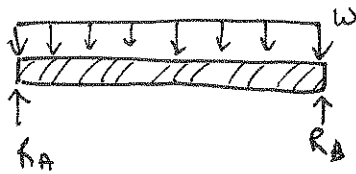
12.2. SOLUTION



d. Draw $V(x)$, $M(x)$.

b. Find equations of $V(x)$, $M(x)$.

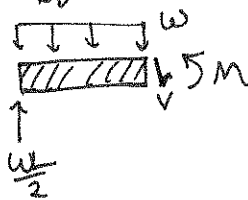
FBD:



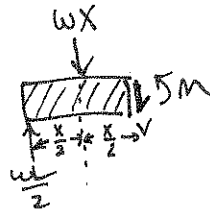
$$\sum \vec{M}_A = \vec{0} \cdot \hat{k} \Rightarrow -wL\left(\frac{L}{2}\right) + R_B(L) = 0 \Rightarrow R_B = \frac{wL}{2}$$

$$\Rightarrow R_A = \frac{wL}{2}$$

Partial FBD:



\Rightarrow



$$\left\{ \sum \vec{F} = \vec{0} \right\} \cdot \hat{k} \Rightarrow \frac{wL}{2} - wx - V = 0$$

$$\Rightarrow \boxed{V = \frac{wL}{2} - wx}$$

$$\left\{ \sum \vec{M}_A = \vec{0} \right\} \cdot \hat{k} \Rightarrow -\frac{wL}{2}(x) + wx\left(\frac{x}{2}\right) + M = 0$$

$$\Rightarrow \boxed{M = \frac{wLx}{2} - \frac{wx^2}{2}}$$

