

ORIGIN := 1     $l := 10 \text{ ft}$      $x := -1 \text{ ft}, .01 \cdot \text{ft} .. l + 1 \text{ ft}$      $I := 26.3 \text{ in}^4$      $E_s := 29000 \text{ ksi}$

$$w(x) := \begin{cases} 0 \cdot \text{kip} & \text{if } 0 \leq x < x_1 \\ P & \text{if } x = x_1 \\ 0 \cdot \text{kip} & \text{if } x_1 < x \leq l \end{cases}$$

$$P := 2 \text{ kip} \quad x_1 := \frac{l}{2}$$

$$R_A := 0.5 \cdot P = 1 \text{ kip}$$

$$P$$

$$0 \cdot \text{kip}$$

$$V(x) := - \int_{0 \text{ ft}}^x w(x) \, dx + R_A$$

$$M(x) := - \int_{0 \text{ ft}}^x V(x) \, dx$$

$$\theta(x) := \int_{0 \text{ ft}}^x \frac{M(x)}{E_s \cdot I} \, dx$$

$$\nu(x) := \int_{0 \text{ ft}}^x \theta(x) \, dx$$



