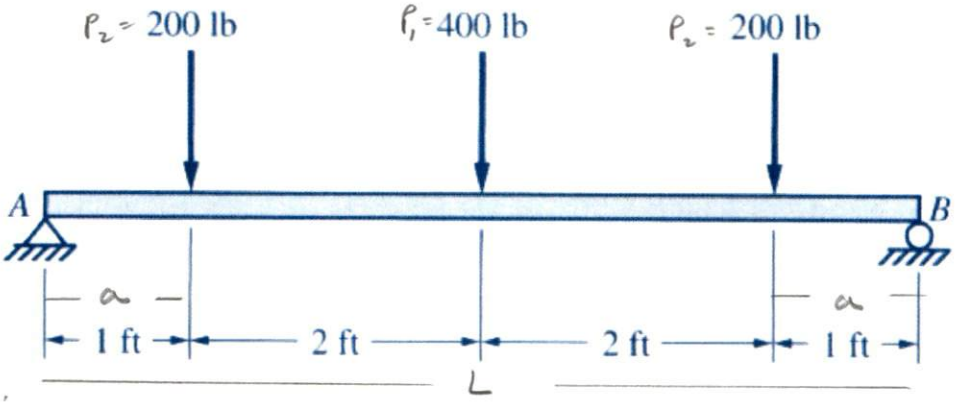
13-44



Solution:

From Table 13-1 and use method of Superposition

Case 1 - Simple beam with a concentrated load at the center

Case 3 - Simple beam with two equal concentrated loads symmetrically placed

$$V_{MAX} = \frac{P_1}{2} + P_2 = \frac{400\text{ lb}}{2} + 200\text{ lb} = \underline{\underline{400\text{ lb}}}$$

$$M_{MAX} = \frac{P_1 L}{4} + P_2 a$$

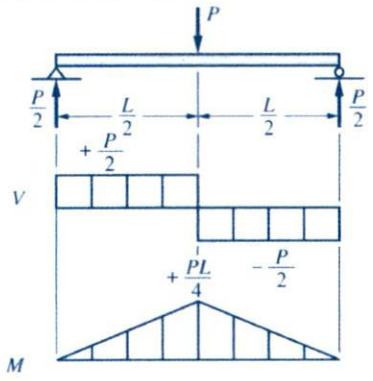
$$= \frac{400\text{ lb}(6\text{ ft})}{4} + 200\text{ lb}(1\text{ ft})$$

$$= 600\text{ lb}\cdot\text{ft} + 200\text{ lb}\cdot\text{ft}$$

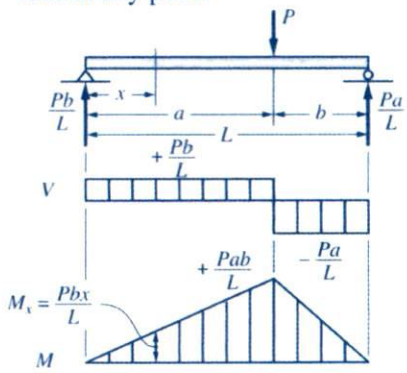
$$= \underline{\underline{800\text{ lb}\cdot\text{ft}}}$$

TABLE 13–1 Shear and Moment Formulas for Some Simple Loadings

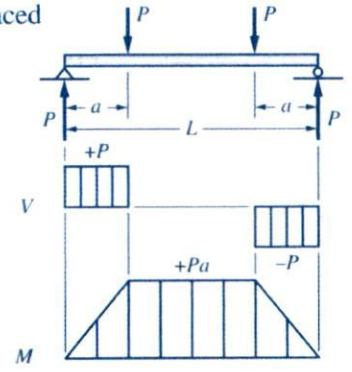
1. Simple beam with a concentrated load at the center



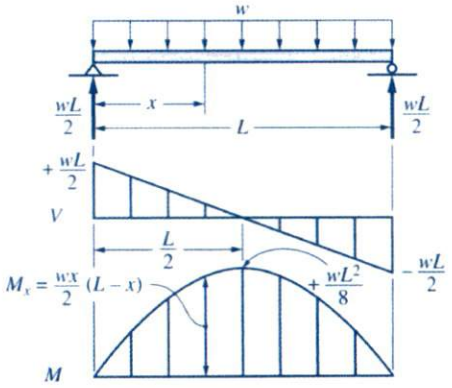
2. Simple beam with a concentrated load at any point



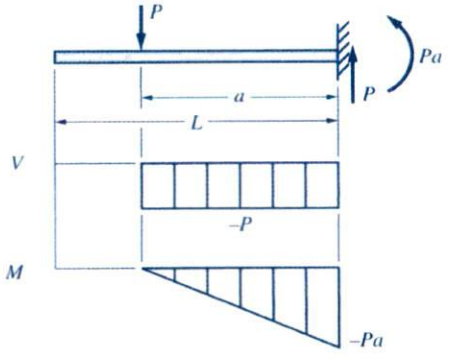
3. Simple beam with two equal concentrated loads symmetrically placed



4. Simple beam with a uniform load



5. Cantilever beam with a concentrated load at any point



6. Cantilever beam with a uniform load