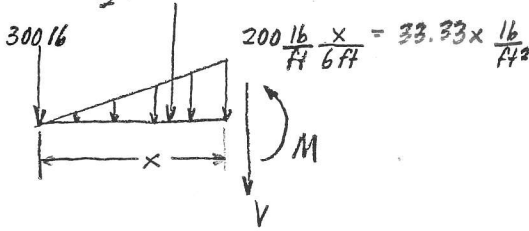


6-5

$$\frac{1}{2}(33.33x)x = 16.67x^2$$

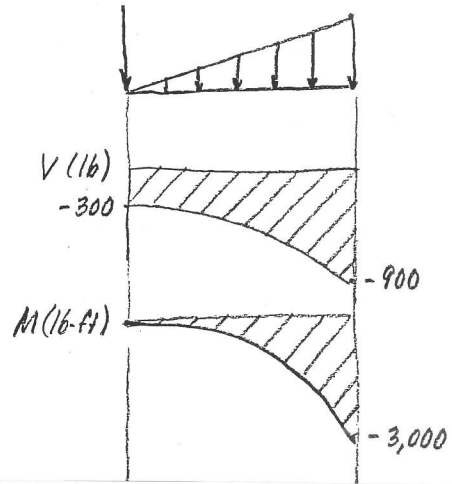


$$\sum F_y = 0, \quad -300 - 16.67x^2 - V = 0$$

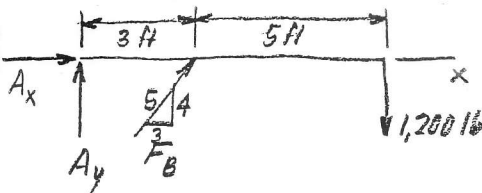
$$V = -16.67x^2 - 300 \text{ (lb)}$$

$$\sum M_x = 0, \quad (x)(300) + \left(\frac{1}{3}x\right)(16.67x^2) + M = 0$$

$$M = -5.556x^3 - 300x \text{ (lb-ft)}$$



6-11



$$\sum M_A = 0, \quad (3\text{ft})\left(\frac{4}{5}F_B\right) - (8\text{ft})(1,200\text{lb}) = 0$$

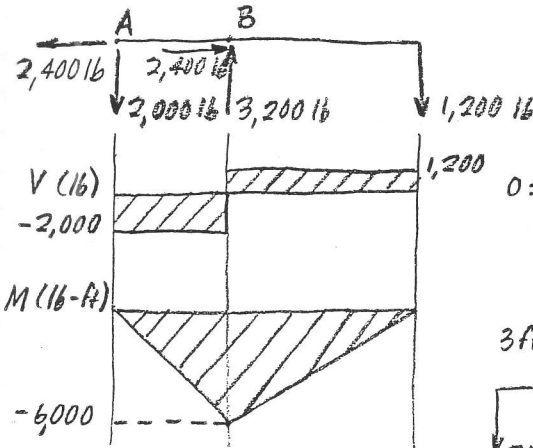
$$F_B = 4,000 \text{ lb}$$

$$\sum F_x = 0, \quad A_x + \frac{3}{5}(4,000\text{lb}) = 0$$

$$A_x = -2,400 \text{ lb}$$

$$\sum F_y = 0, \quad A_y + \frac{4}{5}(4,000\text{lb}) - 1,200\text{lb} = 0$$

$$A_y = -2,000 \text{ lb}$$



$$0 \leq x < 3\text{ft} \quad \sum F_y = 0, \quad -2,000\text{lb} - V = 0$$

$$V = -2,000\text{lb}$$

$$\sum M_x = 0, \quad 2,000x + M = 0$$

$$M = -2,000x \text{ (lb-ft)}$$

$$3\text{ft} < x \leq 8\text{ft}$$

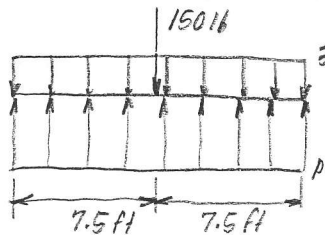
$$\sum F_y = 0, \quad -2,000\text{lb} + 3,200\text{lb} - V = 0$$

$$V = 1,200\text{lb}$$

$$\sum M_x = 0, \quad 2,000x - 3,200(x-3) + M = 0$$

$$M = 1,200x - 9,600 \text{ (lb-ft)}$$

6-23



$$\sum F_y = 0, \quad -150\text{lb} - 3\frac{16}{\text{ft}}(15\text{ft}) + p(15\text{ft}) = 0$$

$$p = 13\frac{16}{\text{ft}}$$

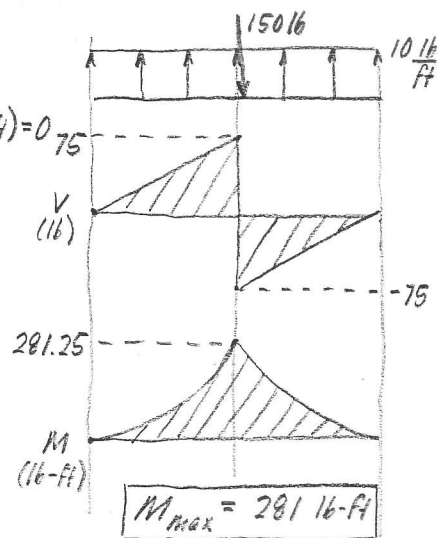
$$0 \leq x < 7.5\text{ft} \quad \sum F_y = 0, \quad 10x\left(\frac{16}{\text{ft}}\right) - V = 0, \quad V = 10x\left(\frac{16}{\text{ft}}\right)$$

$$\sum M_x = 0, \quad -(10x)\left(\frac{x}{2}\right)\left(\frac{16}{\text{ft}}\right) + M = 0, \quad M = 5x^2\left(\frac{16}{\text{ft}}\right)$$

$$7.5\text{ft} < x \leq 15\text{ft} \quad \sum F_y = 0, \quad 10x\left(\frac{16}{\text{ft}}\right) - 150\text{lb} - V = 0$$

$$V = 10x\left(\frac{16}{\text{ft}}\right) - 150\text{lb}$$

$$\sum M_x = 0, \quad -(10x)\left(\frac{x}{2}\right)\left(\frac{16}{\text{ft}}\right) + (150\text{lb})(x-7.5\text{ft}) + M = 0, \quad M = 5x^2\left(\frac{16}{\text{ft}}\right) - 150x(16) + 1,125(16\text{-ft})$$



$$M_{\text{max}} = 281 \text{ lb-ft}$$