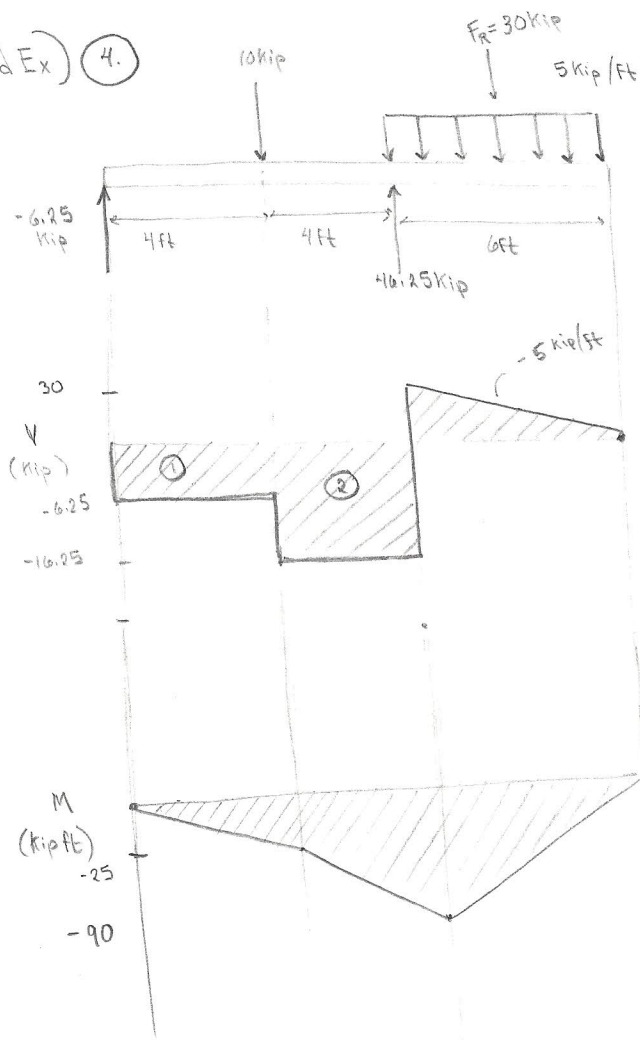


Vid Ex) 4.

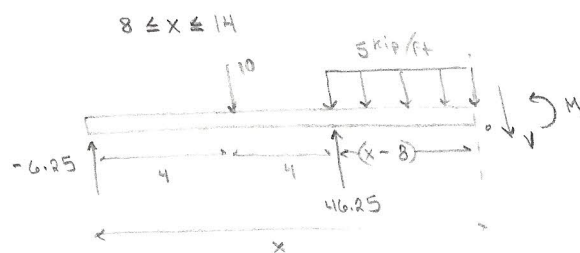
370 #3

22



$$\sigma_{allow} = 24 \text{ ksi}$$

$$\tau_{allow} = 14 \text{ ksi}$$



$$+\uparrow \sum F_y = 0 \quad -6.25 - 10 + 46.25 - (5)(x-8) = V$$

$$30 - 5x + 40 = V$$

$$V = -5x + 70$$

$$A_1 = (-6.25)(4) = -25 \text{ kip-ft}$$

$$A_2 = (-16.25)(4) = -65 \text{ kip-ft}$$

$$+5 M_0 = 0$$

$$-M = (6.25)x + (10)(x-4) - (46.25)(x-8) - \left[\frac{5(x-8)}{2} \right] \left(\frac{x-8}{2} \right)$$

$$-M = 6.25x + 10x - 40 - 46.25x + 370 - 2.5x^2 + 40x - 160$$

$$-M = -2.5x^2 + 10x + 170$$

$$M = 2.5x^2 - 10x - 170$$

$$(5x - 40) \left(\frac{x}{2} - 4 \right)$$

$$\frac{5x^2}{2} + 160 - 20x - 20x$$

$$2.5x^2 - 40x + 160$$

$$\frac{dM}{dx} = 5x - 10 = 0 \quad \text{critical pt. @ } x = 2$$