

1.

$$\sum F_x = 0$$

$$A_x - 400 \sin 15^\circ = 0$$

$$A_x = 103.5 \text{ N}$$

$$\sum F_y = 0$$

$$A_y - 600 - 400 \cos 15^\circ + B_y = 0$$

$$A_y + B_y = 600 + 400 \cos(15^\circ)$$

$$\sum M_B = 0$$

$$600 \times 8 - 12 A_y = 0$$

$$A_y = \frac{600 \times 8}{12}$$

$$= 400 \text{ N}$$



$$\sum F_y = 0$$

$$A_y - 600 - 400 \cos 15^\circ + B_y = 0$$

$$A_y + B_y = 600 + 400 \cos(15^\circ)$$

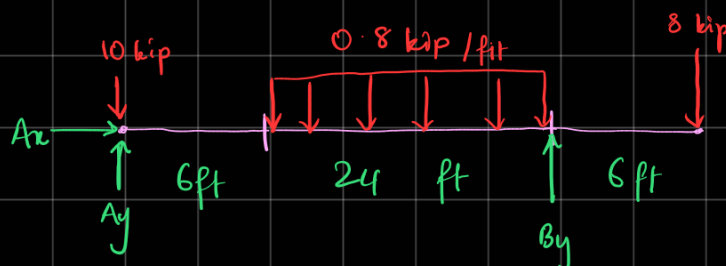
$$B_y = 200 + 400 \cos(15^\circ)$$

$$= 586 \text{ N}$$

2.

$$(0.8)24 = 19.2 \text{ kip}$$

↳ converting uniformly distributed load to a point load.



$$\sum M_A = 0$$

$$10(6) - 19.2(12) - 8(30) + 24 B_y = 0$$

$$24 B_y = 57.6 + 240 - 60$$

$$= 237.6 \text{ N}$$

$$B_y = \frac{237.6}{24} = \underline{17.1 \text{ kip}}$$

$$\sum F_y = 0$$

$$-10 + A_y - 19.2 + 17.1 - 8 = 0$$

$$A_y = \underline{20.1 \text{ kip}}$$

$$\sum x = 0$$

$$\underline{A_x = 0}$$