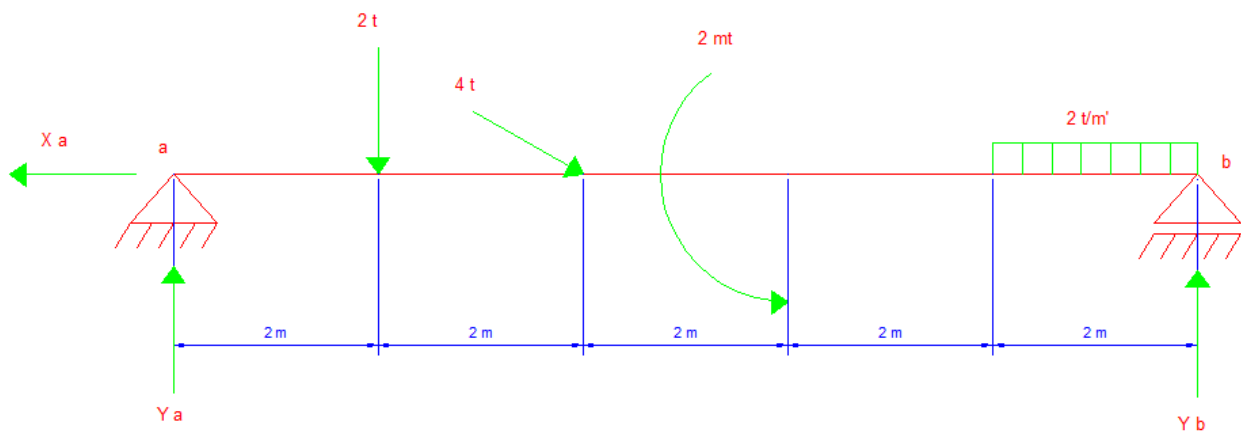


# Problem 1

For the following beam find the reactions



SOL.

$$\sum F_x = 0$$

$$X_a = 4 \cos 30 = 3.464$$

$$\sum M_a = 0$$

$$2 \times 2 + 4 \sin 30 \times 4 - 2 + 4 \times 9 - Y_b \times 10 = 0$$

$$Y_b = 4.6 \text{ t}$$

$$\sum F_y = 0$$

$$Y_a - 2 - 4 \sin 30 - 4 + 4.6 = 0$$

$$Y_a = 3.4 \text{ t}$$