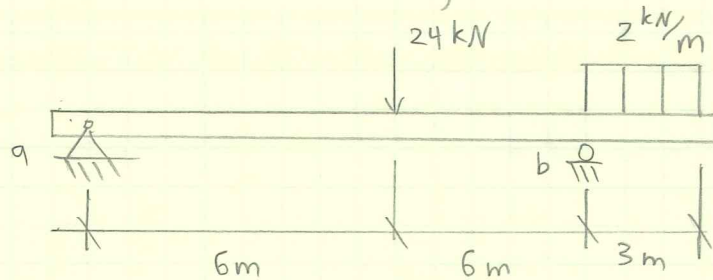


ASSIGNMENT #0

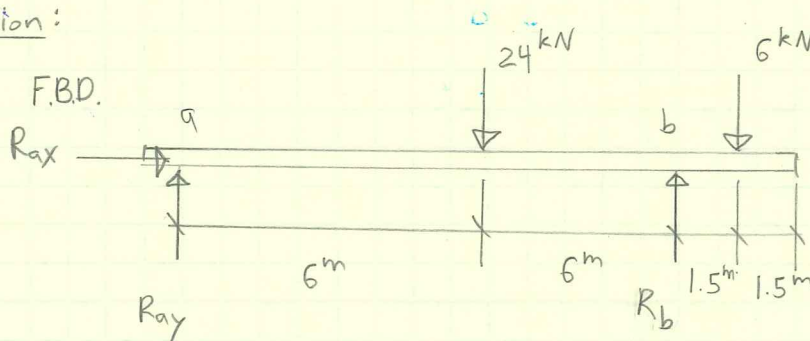
Problem: MSB01

Given: The beam loaded as shown



Required: Compute the reactions at a &amp; b

Solution:



$$\overset{+}{\rightarrow} \sum F_x = 0; \quad \underline{\underline{R_{ax} = 0}}$$

$$\overset{+}{\curvearrowright} \sum M_a = 0; \quad 24(6m) - R_b(12m) + 6(13.5m) = 0$$

$$\underline{\underline{R_b = 18.75 \text{ kN} \uparrow}}$$

$$\overset{+}{\uparrow} \sum F_y = 0; \quad R_{ay} - 24 - 6 + 18.75 = 0$$

$$\underline{\underline{R_{ay} = 11.25 \text{ kN} \uparrow}}$$

Check:

$$\overset{+}{\curvearrowright} \sum M_b = 0; \quad -24(6) + 2(3)(1.5) + 11.25(12) = 0$$

$$0 = 0 \quad \checkmark$$