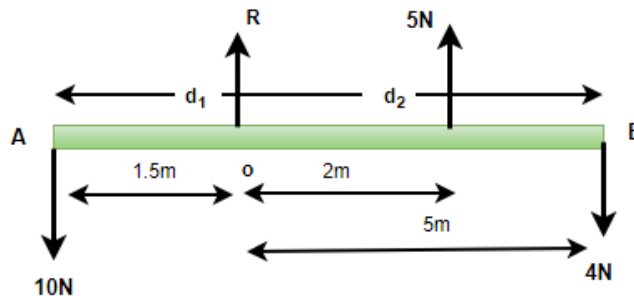


Practice Problems on Principles of Moments:

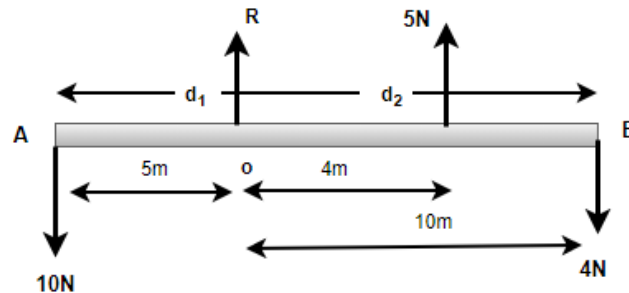
1. A 200 cm meter rule is pivoted at the middle point (at 50 cm point). If the weight of 10 N is hanged from the 30 cm mark and a weight of 20 N is hanged from its 60 cm mark, identify whether the meter rule will remain balanced over its pivot or not.

2. A 500 cm meter rule is pivoted at its middle point. If weight of 2 N is hanged from the 20 cm point, Calculate the amount of weight required to be applied at the 80 cm mark to keep it in a balanced position.

3. In the figure given below, the distance and forces are given as $d_1 = 1.5\text{m}$, $d_2 = 2\text{m}$, $d_3 = 5\text{m}$ $F_1 = 10\text{N}$ $F_2 = 5\text{N}$ $F_3 = 4\text{N}$. Find the whether the system will be in rotational equilibrium or not.



4. In the figure given below, the distance and forces are given as $d_1 = 5\text{m}$, $d_2 = 4\text{m}$, $d_3 = 10\text{m}$ $F_1 = 10\text{N}$ $F_2 = 5\text{N}$ $F_3 = 4\text{N}$. Find the whether the system will be in rotational equilibrium or not.



5. In the figure given below, the distance and forces are given as $d_1 = 1\text{m}$, $d_2 = 2\text{m}$, $F_1 = 2\text{N}$. Find the value of F_2

