## Answer on Question \# 74496, Physics / Other

Question Uniform metre rule of mass 130 g balances at the 40 cm mark when a mass X is placed at the 10 cm mark. What is the value of X (take $\mathrm{g}=10$ )

Solution Let us count the length from the 40 cm mark. Then the balance equation is

$$
X \cdot 30+\frac{130}{100} \cdot 40 \cdot 20=\frac{130}{100} \cdot 60 \cdot 30
$$

From this we can find X :

$$
X=\frac{\frac{130}{100}(60 \cdot 30-40 \cdot 20)}{30} \approx 43.3 \mathrm{~g}
$$

