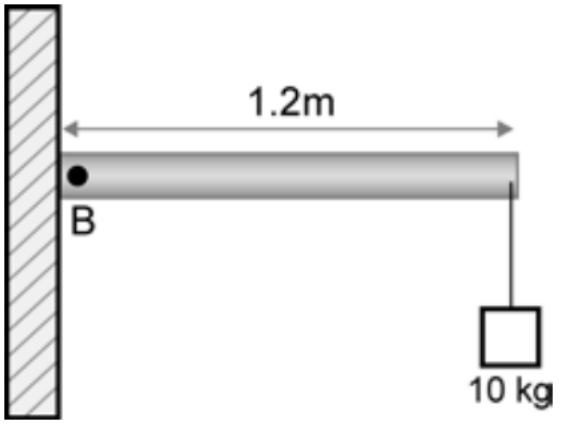
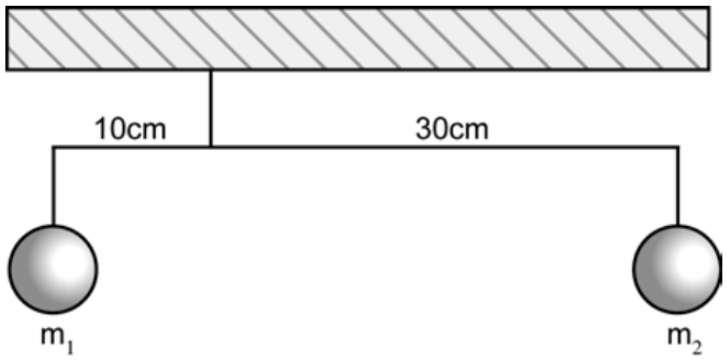
PHYSICS WORKSHEET – Torque Problems

Answer the following questions.

1. A 10-kilogram mass is suspended from the end of a beam that is 1.2 meters long. The beam is attached to a wall. Find the magnitude and direction (clockwise or counterclockwise) of the resulting torque at point B. Hint: Remember that force is measured in newtons, not kilograms.



2. Two masses m_1 and m_2 are suspended on an ornament. The ornament is hung from the ceiling at a point which is 10 centimeters from mass m_1 and 30 centimeters from mass m_2. If $m_1 = 6$ kg, what does m_2 have to be for the ornament to be in rotational equilibrium?



Answer Sheet:

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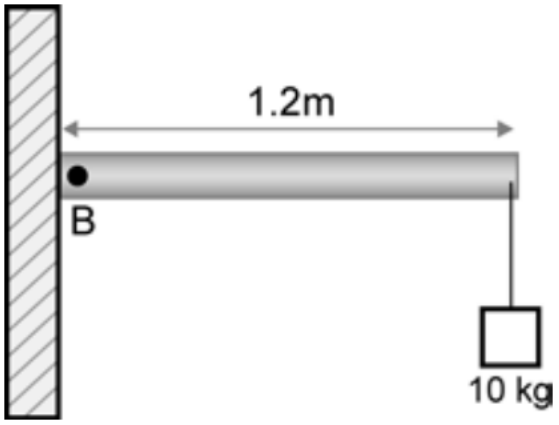
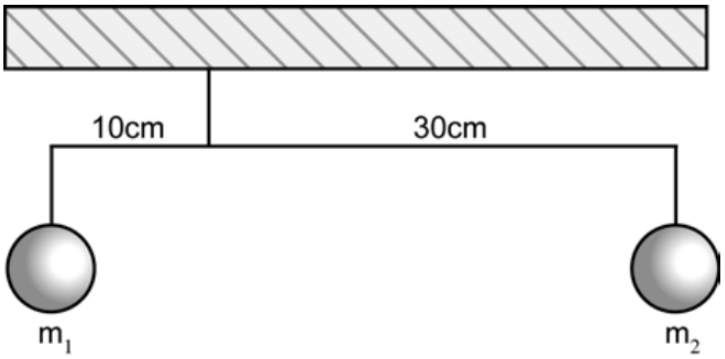


Answer: 117.6 N-m clockwise

2. Two masses m_1 and m_2 are suspended on an ornament. The ornament is hung from the ceiling at a point which is 10 centimeters from mass m_1 and 30 centimeters from mass m_2. If m_1 = 6 kg, what does m_2 have to be for the ornament to be in rotational equilibrium?



Answer: m_2 = 2 kilograms