

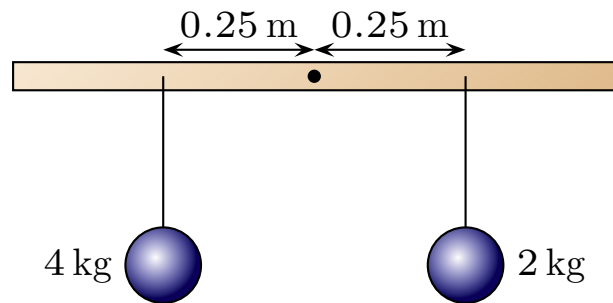
Warm Up Question 1

An axle passes through one end of a meter stick. A 10 N force pulls perpendicular to and at the other end the stick. The point of application of this force is then shifted to a point 25 cm from the axle and the force stays constant. Describe as precisely as possible how this changes the torque exerted by the force on the stick. Explain your answer.

1. Decreases. $\tau = rF \sin \phi$
2. Decreases to 0.75 of what it was.
3. Decreases to 0.25 of what it was.
4. Decreases. The center of gravity decreases.
5. Increases. The point of application shifts further from the axle.
6. Increases by 25%. The point of application shifts further from the axle.

Question 1

A meter stick can pivot about its midpoint. Two balls are suspended equal distances from the center.

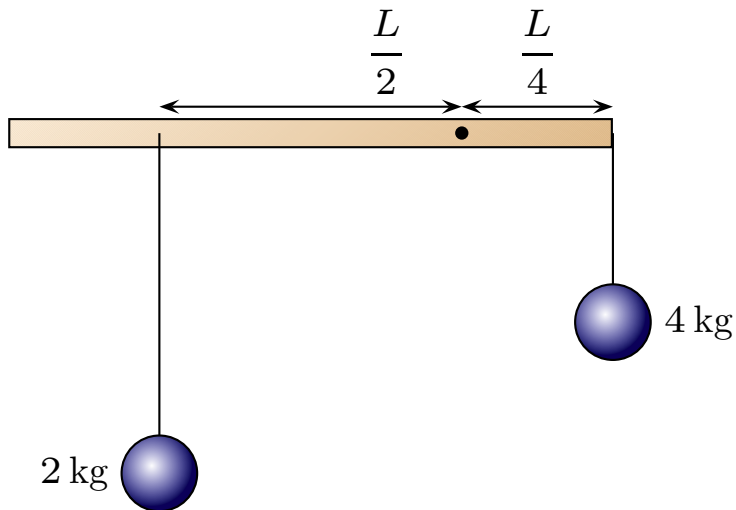


Which of the following best describes the net torque on the meter stick?

1. $\tau_{\text{net}} = 0$
2. $\tau_{\text{net}} > 0$
3. $\tau_{\text{net}} < 0$

Question 2

A 1.0 kg metal rod with length L is free to pivot about *an axle to the right of its midpoint*. Two balls are suspended as illustrated.



Which of the following best describes the net torque on the metal rod?

1. $\tau_{\text{net}} = 0$
2. $\tau_{\text{net}} > 0$
3. $\tau_{\text{net}} < 0$