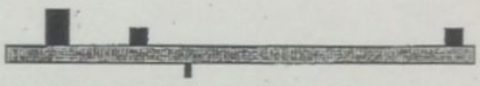
Balancing a Beam: Do the clockwise torques equal the counterclockwise torques?

Balance a meterstick with a variety of 100-g and 200-g weights on each side of the fulcrum. (Use at least three weights besides the meterstick.) Place the fulcrum at some point that is not the 50 cm point. Measure the mass of the meterstick ahead of time.

meterstick



fulcrum

Determine the total clockwise torque and the total counterclockwise torque. Be sure to include the weight of the meterstick. (Consider it as a point mass located at its center of mass.)

Data:

	mass (g)	actual meter stick reading	r (cm) (distance from r = 0)	torque (grams-cm)	CW/CWW
meter stick					
mass 1					
mass 2					
mass 3					

Calculations

a) Total CW torque:

b) Total CCW torque:

c) Percent error (difference/larger value):

Why should "Total CW torque" = "Total CCW torque"?