

PHY1235: Physics for Engineers

Instruction

The objective of this problem set is to learn how to apply the two conditions for a body at static equilibrium.

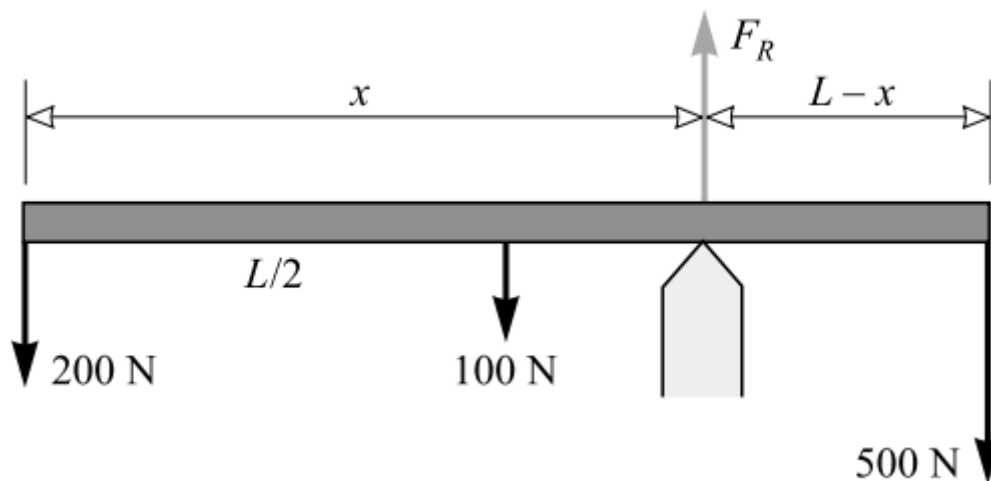
Issued: 05/07/2020 --- **Due:**

Helpful readings for this homework: Lecture #3; Chapter 10, section 10.4 of University Physics

Problem Set #4: Static Mechanical Equilibrium

Problem 1:

A uniform, 100-N pipe is used as a lever, as shown in the figure below. (a) Where must the fulcrum (the support point) be placed if a 500-N weight at one end is to balance a 200-N weight at the other end? (b) What is the reaction force exerted by the support on the pipe?



Expected Answers

Problem 1:

a) $x = 0.69L$

b) $F_R = 800 \text{ N}$