

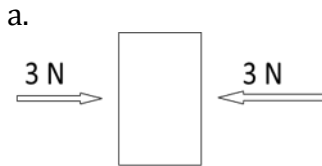
Equilibrium

Integrated Science: Physics/Design

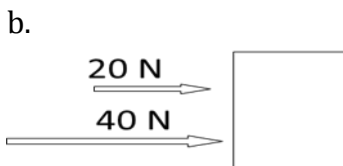
Name: _____ Pre. _____

When all forces acting on a body are balanced, the forces are in equilibrium. This skill sheet provides free-body diagrams for you to use for practice in working with equilibrium. Remember that an unbalanced force results in acceleration. Therefore, the forces acting on an object that is not accelerating must be balanced. These objects may be at rest, or they could be moving at a constant velocity. Either way, we say that the forces acting on these objects are in equilibrium.

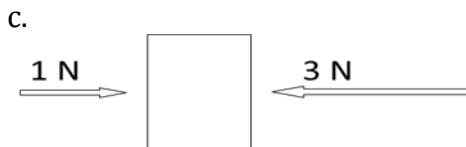
1. What is the net force on the objects below?



Net force = _____

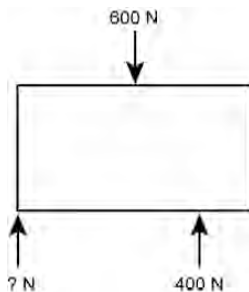


Net force = _____

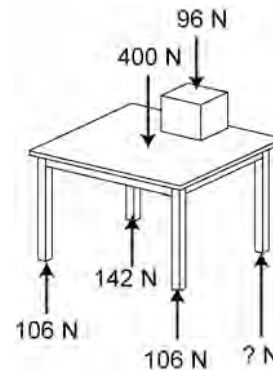


Net force = _____

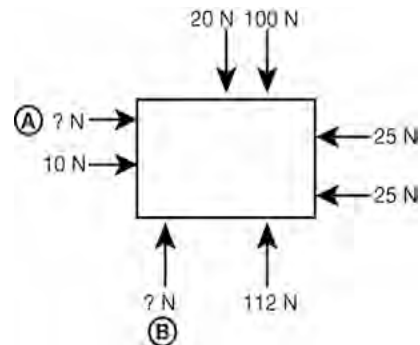
2. Supply the missing force necessary to achieve equilibrium.



3. Supply the missing force necessary to achieve equilibrium

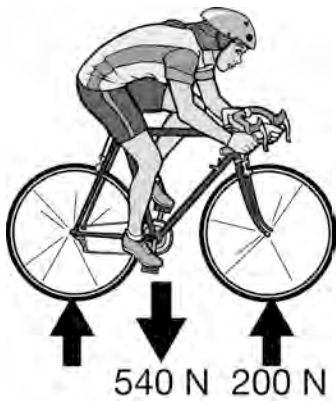


4. Supply the missing force necessary to achieve equilibrium



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5. In the picture, a girl with a weight of 540 N is balancing on her bike in equilibrium, not moving at all. If the force exerted by the ground on her front wheel is 200 N, how much force is exerted by the ground on her back wheel?



6. The net force on Burl the painter is zero. The total weight of Burl and the staging is 1,200 N. Fill in the readings on the readings on the scale.

There is a picture that needs to go here