

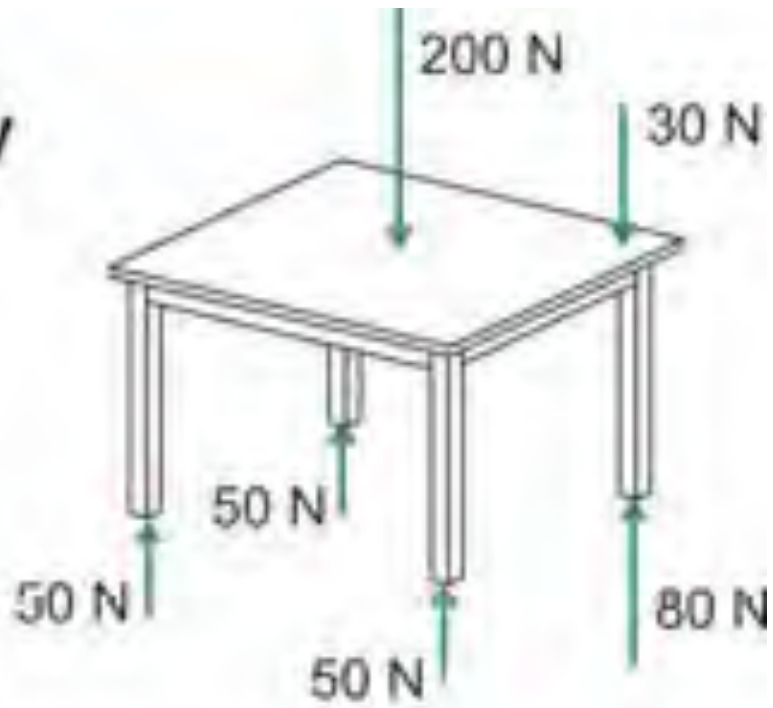
# NET FORCE

## SECTION 5.3

- The sum of all the forces on an object
- The word *net* means total but also means the direction of the forces has been taken into account.

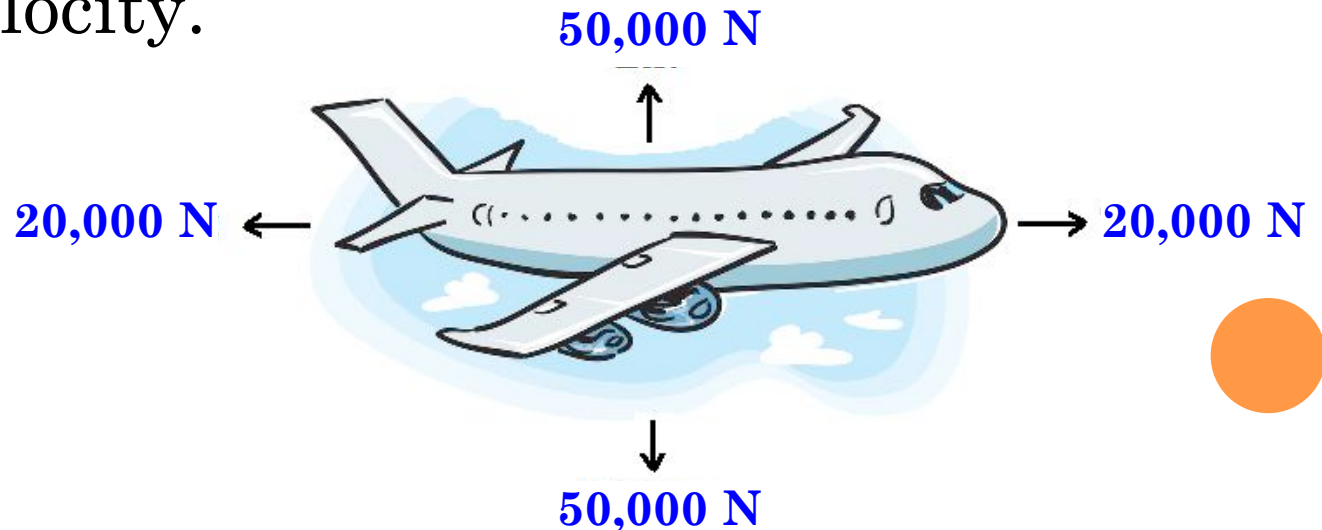
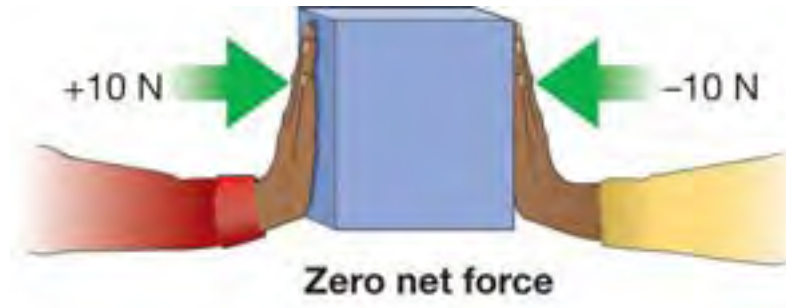


**Free-body diagram**



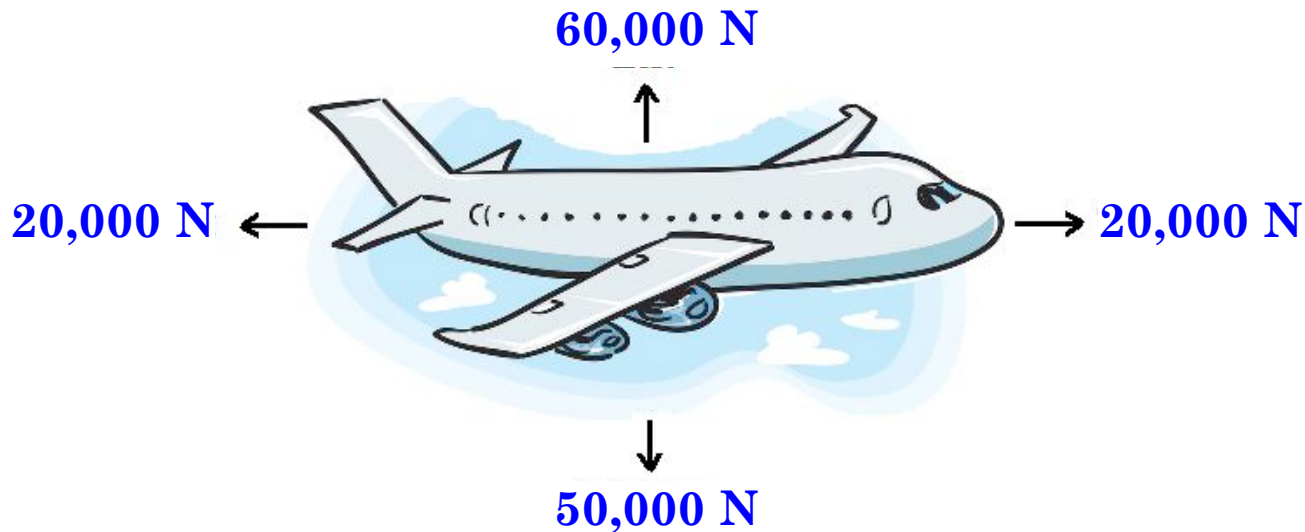
# BALANCED FORCES

- Net force = 0
- Object is in equilibrium
- An object at rest will stay at rest.
- An object in motion will continue at a constant velocity.

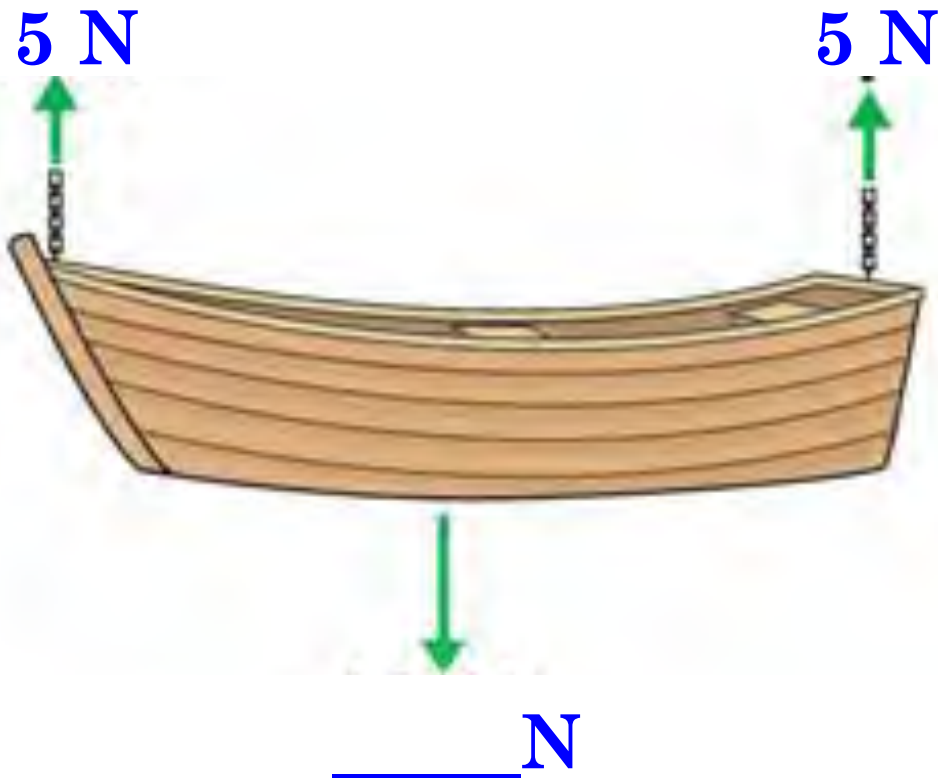


# UNBALANCED FORCES

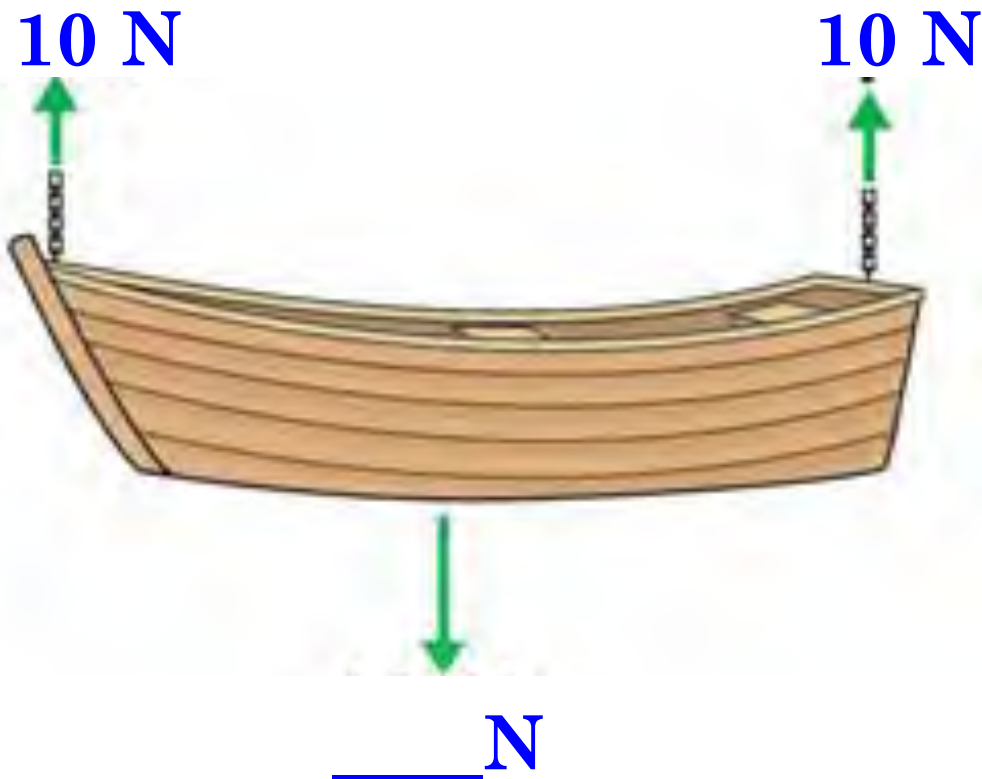
- Net force  $\neq 0$
- Object is not in equilibrium
- The motion of the object will change



# THE BOAT IS IN EQUILIBRIUM



THE BOAT IS IN EQUILIBRIUM



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