

What is Force and Net Force?

Worksheet

Force is any push or pull on an object, measured in newtons (N). Net force is the vector sum of all forces acting on an object; if forces are unbalanced, the object accelerates in the direction of the net force.

$$F_{\text{net}} = \sum F_i$$

Questions

- Two forces of 30 N and 10 N act in the same direction. What is the net force?
A) 20N
B) 40N
C) 3N
D) 10N
- A net force of zero means the object is...
A) Always at rest
B) In equilibrium (constant velocity or rest)
C) Accelerating
D) Losing mass
- What is the SI unit of force?
A) Joule
B) Watt
C) Newton
D) Pascal
- A 50N force pushes right and a 20N force pushes left on a box. What is the net force?
A) 70N left
B) 30N right
C) 70N right
D) 30N left
- Two people pull a rope in opposite directions with forces of 80 N and 50 N. Find the net force and its direction.
- A box on a table has a weight of 20 N pulling down and a normal force of 20 N pushing up. Find the net force.
- Three forces act on a sled: 40 N forward, 15 N backward (friction), 5 N backward (air resistance). Find the net force.
- Define: What is a force?
- Define: What is net force?
- Define: What happens when net force = 0?

Answer Key

1. B) 40N - Same-direction forces add: $30 + 10 = 40$ N.
2. B) In equilibrium (constant velocity or rest) - Zero net force means equilibrium, per Newton's First Law.
3. C) Newton - Force is measured in newtons (N).
4. B) 30N right - Net = $50 - 20 = 30$ N in the direction of the larger force (right).
5. Net force = $80 - 50 = 30$ N Direction: toward the stronger pull (80 N side)
6. Net force = $20 - 20 = 0$ N Forces are balanced the box stays at rest
7. Backward forces = $15 + 5 = 20$ N Net force = $40 - 20 = 20$ N forward
8. A push or pull that can change an object's motion, measured in newtons (N).
9. The vector sum of all forces acting on an object.
10. The object stays at rest or moves at constant velocity (Newton's First Law).

Bounlu

All cards, step-by-step solutions and an AI tutor are in the Notek app.
Promy turns exam dates into automatic reminders.