

Net Force Concept Sheet

Key Concepts

- A. What is meant by the phrase "Net Force?"

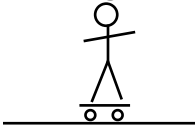
- B. Why is "Net Force" important?

- C. Can your acceleration be in a different direction than the net force?

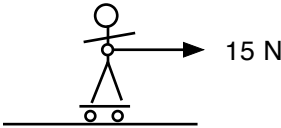
- D. If you are not accelerating, what is the net force on you?

Questions

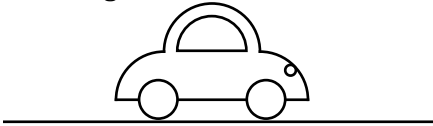
1. You weigh 600 N and are at rest on your skateboard. Show the free-body diagram, including labels and numbers.



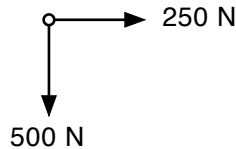
2. You still weigh 600 N, but now a friend is pulling you to the right with a force of 15 N and also at a constant speed. Show the free-body diagram, including labels and numbers.



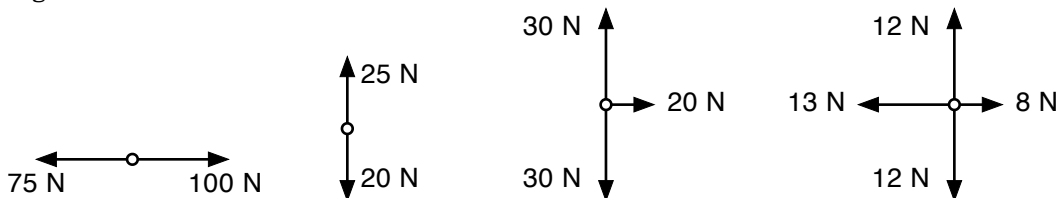
3. There is a normal force of 20,000 N acting on a car at rest. Show the free-body diagram, including labels and numbers.



4. A person is being pulled to the right at a constant speed. Two of the forces are shown in the diagram. Complete the free-body diagram, including labels and numbers.

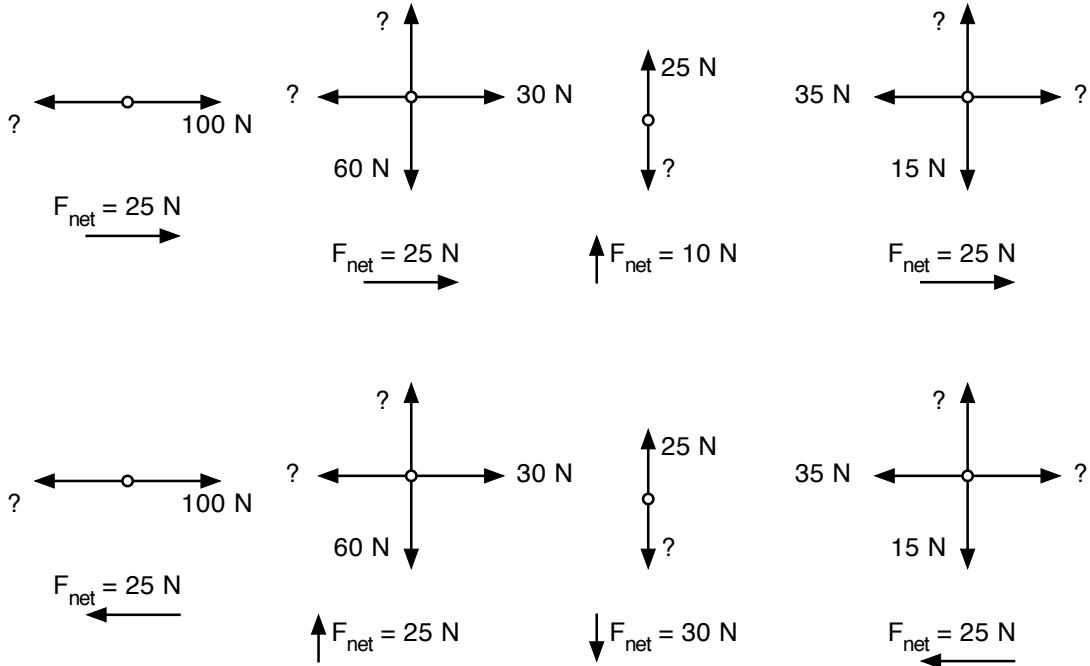


6. For each of the following free-body diagrams, what is the net force? Give both the magnitude and the direction.

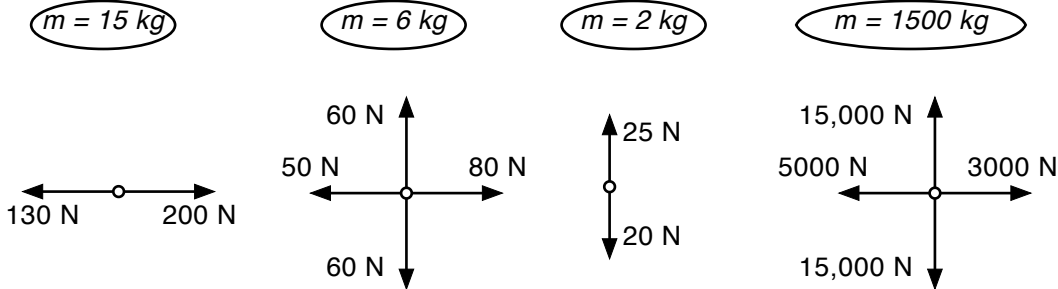


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7. For each of the following free-body diagrams, what is/are the missing force(s) if the net force is as shown?



8. For each of the following free-body diagrams, what is the acceleration of the mass? Give both the magnitude and the direction.



9. For each of the following free-body diagrams, what is/are the missing force(s) if the acceleration and mass are as shown?

