

Physics Test 10 KEY

CHANGES IN MOTION

1. b
2. b
3. d
4. d
5. d
6. a
7. c
8. d
9.
 1. Identify the forces acting on the body and the direction of the forces.
 2. Draw a diagram to represent the isolated object.
 3. Draw and label force vectors for all the external forces acting on the object.

10.



- _____ 6. Which of the following statements describe free-body diagrams?
- I. Force diagrams show force vectors as arrows.
 - II. Forces exerted on the object are represented.
 - III. Forces exerted by the object are represented.
- a. I and II
 - b. I and III
 - c. II and III
 - d. I, II, and III
- _____ 7. The gravitational force exerted on an object would most likely be represented by which force vector?
- a. \uparrow
 - b. \rightarrow
 - c. \downarrow
 - d. \leftarrow
- _____ 8. Two books are lying next to each other on a library table. The force due to gravity on the first book is 9 N and on the second is 13 N. The gravitational force on the table itself is 125 N. The floor supports the table with an upward force of 147 N. In a free-body diagram of the table, how many contact forces and how many field forces should be represented?
- a. 1, 2
 - b. 1, 3
 - c. 2, 2
 - d. 3, 1

9. Sequence the steps in drawing a free-body diagram.

10. A draft horse exerts a horizontal force of 600 N dragging a log, on which the force of friction is 500 N. The force due to gravity on the log is 700 N and the ground exerts an upward force of 700 N on it. Draw a free-body diagram of the log.