

Name:

Date:

Work each of the following problems. SHOW ALL WORK.

4. If the box weighs 1,500 N, how much work does the force of gravity do on the box? Is the work positive or negative? Draw a free-body diagram to support your answer.
5. Using the information from the previous two questions, what is the total, or net, work done to the box?
6. A 50 N block is raised 2 m. If the net work done on the block is 50 J, what is the applied force on the block?

questions continued on next page

Unit 4D_Practice Problems

Work each of the following problems. SHOW ALL WORK.

7. A 25 N block is lowered 1.2 m by a 20 N force.
- Draw a free-body diagram of the forces acting on the block.
 - How much work does the force of gravity do on the box? Is this work positive or negative?
 - How much work does the applied force do on the box? Is this work positive or negative?
8. Does it require more work to raise a 15 kg block by 4 m or to raise a 20 kg block by 2 m, if both are moving at a constant velocity? Draw a free-body diagram to help solve the problem.