**MACHINE PROBLEMS Name**

A person standing on the ground needs to lift a 100.0kg box to a ledge that is 2.000m high. He sets up a pulley system to do this. He pulls down on the effort rope of the pulley system with a force of 245.0N, and has to pull 10.00m of rope to lift the box to the 2.000m ledge. Answer the following questions.

1) Calculate the output force.

2) Calculate the AMA of the pulley system used.

3) Calculate the work input for this machine.

4) Calculate the work output for this machine.

5) Calculate the efficiency for this machine.

6) Why wasn’t this machine 100% efficient?

7) Tell all of the ways that this pulley system changed the force, and explain, using data from these problems, how you know.