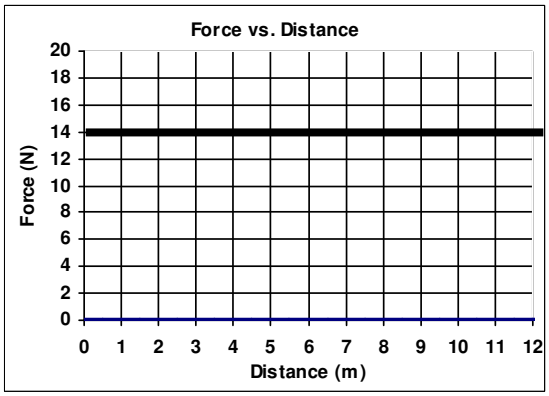
A-Day Due Fri., Nov 30 (Assigned: 12/4)
B-Day: Due Mon., Dec 3 (Assigned: 12/5)

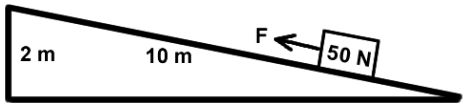
2007 Energy 6 (Test Review)

This homework does not have every concept on the test. It assumes you will study the in class review, as well.

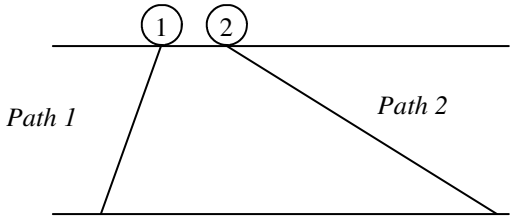


1. A 2 kg object is moving 6 m/s. Use the graph at the right to find out how fast it is going afterward.
   (See the last problem on the Test Review if you need help.)

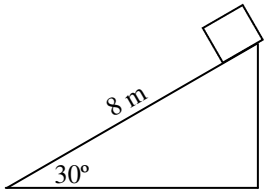
2. Use the picture at the right to answer the following:
   A. What is the mass of the object?
   B. For efficiency, Win =
   C. For efficiency, Wout =
   D. What kind of simple machine is it?
   E. What is the MA of the simple machine?
   (*Check your simple machine notes.)*
   F. Find the efficiency of the simple machine if F = 12 N?



3. Two identical balls are at the top of a hill.
   A. What kind of energy do they have at the top?
   B What kind of energy will they have at the bottom?
   C. If there is no friction on either path, will energy be lost?
   D. If there is no friction on either path, which ball will have the greatest speed at the bottom?
   E. If there IS equal friction on both sides, which ball will have the greatest speed at the bottom?



4. A 4 kg object is 8 meters up a 30° ramp
   A. What kind of energy does it have at the top of the ramp?
   B. What kind of energy does it have at the bottom of the ramp?
   C. What distance does friction act on the object?
   D. Friction does positive or negative work?
   E. Will the object be going faster or slower at the bottom than it would be if there was no friction.
   F. For efficiency, what is Win?
   G. For efficiency, what is Wout?
   F. Using Conservation of Energy, if it starts at rest how fast is it going at the bottom if F_k = 6 N?
   (Big *Hint: The distance in A. is not the same at the distance in C.)*
   (VEO!: set it up with numbers, but don't solve.)



MORE ON BACK

5. A person lifts a 6 kg object up 8 meters in 4 seconds. Find the power used to lift the object.
   A) Write the Conservation of Energy equation:

   B) So, if these two types of energy are equal, then in the power equation, the work done becomes:

   C) Calculate power.

   Remember to study the types of energy and oxidation information!

6. What two kinds of energy are <u>not</u> found in a campfire?

7. How many electrons are gained or lost by Potassium (K)?

8. Write the balanced formula for the ionic compound made from Calcium (Ca) and Fluorine (F).

9. So, elements in the column 2 of the periodic table will combine with the 17 column in what ratio? (*How many to how many.)*

10. A 3 kg object is moving 2 m/s.
    A. Calculate its kinetic energy.

    B. The same 3 kg object is accelerated so that its speed is doubled.
    C. If the speed is doubled, how fast is it moving?
    D. Calculate its new kinetic energy.

    E. So, if the speed doubles (increases by a factor of 2) the kinetic energy _____ (increases by a factor of _____.)