Work Section Review 5-1 pg. 171

1) For each of the following situations, identify whether the everyday or scientific meaning of work is intended
a) Jack had to work against time as the deadline neared.
b) Jill had to work on her homework before she went to bed.
c) Jack did work carrying water up the hill.

2) If a neighbor pushes a lawnmower four times as far as you, but exerts only half the force, which one of you does more work? By how much?

3) For each of the following cases indicate whether the work done on a second object in each example will have a positive or negative value.
a) The road exerts a friction force on a speeding car skidding to a stop.
b) A rope exerts a force on a bucket as the bucket is raised up a well
c) Air exerts a force on a parachute as the parachutist slowly falls to Earth.
d) The Earth exerts a force on a bobsled as it moves down a track.

4) Determine whether work is being done in each of the following examples.
a) A train engine pulling a loaded boxcar initially at rest.
b) A tug of war that is evenly matched.
c) A crane lifting a car.

5) A worker pushed a 1500 N crate with a horizontal force of 345 N a distance of 24 m. Assume the coefficient of kinetic friction between the crate and the floor is 0.22
a) How much work is done by the worker on the crate?
b) How much work is done by the floor on the crate?
c) What is the net work done on the crate?

6) A .075 kg ball in a kinetic sculpture is raised 1.33 m off the ground by a motorized vertical conveyor belt. A constant frictional force of .35 N acts in the direction opposite the conveyor belt's motion. How much total work is done in raising the ball??