**Work and Energy Review Problems**

1. From the given list, select a possible pair for the value of coefficient of static and kinetic frictions μs and μk (There may be more than one choice)

a. (2.61, 2.00) b. (2.00, 2.61) c. (0.261, 0.150) d. (0.150, 0.261)

2. A runner has a kinetic energy of 750 J. What will be his/her kinetic energy if

(a) his/her mass is doubled.

(b) his/her speed is doubled.

3. Three objects were thrown from top of a building. First one was thrown with 20 m/s horizontally. The second one was thrown vertically upward with an initial speed of 20 m/s. The third object was thrown at an angle 30o to the horizontal. When the objects reach the ground, which object will have the highest speed?

4. A 2.5 x 103 kg car starts from rest at the top of a 20 m rough slope inclined at 30o with the horizontal. If the average frictional force experienced by the car is 3.2 x 103 N, find the speed of the car at the bottom of the slope.

5. The electric motor of a toy car accelerates the car from rest to 0.5 m/s in 0.030 s. If the mass of the toy car is 3.0 kg, find the average power delivered to the car during its acceleration.