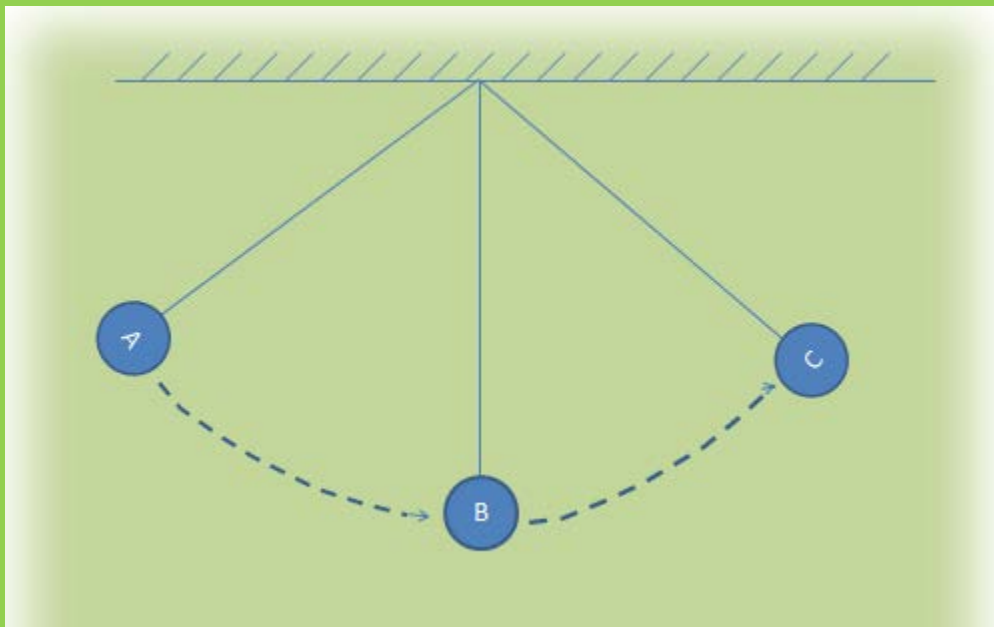## 5.4 Review Questions

1. A pendulum swinging is a conversion from potential energy to kinetic back to potential, ...
      a. At what point of a pendulum's swing is the PE greatest?
      b. At what point of a pendulum's swing is the KE greatest?

2. What is the amount of work needed to move a 350 N block up 3 meters?

3. How much work is needed to lift a 30 Kg object 2 m?

4. How much work is done if a person pushes a 300 N wall and it doesn't move?

5. A pendulum's mass is 3 Kg. If it reaches a maximum speed of 8 m/s, how high must the pendulum have been lifted?

6. Using the following information, answer the following questions:

A pendulum is lifted 2.3 m. Its mass is 1.5 Kg.

     a. At what point(s) in its swing does the mass have the greatest KE?
     b. At what point(s) in its swing does the mass have the greatest PE?
     c. Assuming no loss of energy, what is the maximum velocity of the pendulum?
     d. How much PE does the mass have at the beginning of its swing?
     e. When you drop the mass, if it loses 6 J of energy as it reaches the highest point on the other side of its swing what is the height of the pendulum at the other side?
     f. Where does the energy go that is lost?

7. If energy can neither be created nor destroyed, in the real world why does a pendulum eventually stop swinging?

8. If you have to slide a heavy trunk across a floor, will the amount of work you do depend on if the oor is carpeted or wooden? Why of why not?

9. How is the work different in lifting a book one meter off the floor and in holding a book one meter off the floor?

10. Is any work being done while you are reading this question? Why or why not?