1. . How much work does a person do in pushing a box with a force of 10 N over a distance of 4.0 m in the direction of the force? (A) 0.4 J (B) 4.0 J (C) 40 J (D) 400 J (E) 4000 J

2. . A person pushes a 10 kg box at a constant velocity over a distance of 4 m. The coefficient of kinetic friction between the box and the floor is 0.3. How much work does the person do in pushing the box? (A) 12 J (B) 40 J (C) 75 J (D) 120 J (E) 400 J

3. . How much work does the force of gravity do in pulling a 10 kg box down a 30Âº inclined plane of length 8.0 m? Note that sin 30 = cos 60 = 0.500 and cos 30 = sin 60 = 0.866. (A) 40 J (B) 69 J (C) 400 J (D) 690 J (E) 800 J

4. . How much work does a person do in pushing a box with a force of 20 N over a distance of 8.0 m in the direction of the force? (A) 1.6 J (B) 16 J (C) 160 J (D) 1600 J (E) 16000 J

5. . The figure below is a force vs. displacement graph, showing the amount of force applied to an object by three different people. Al applies force to the object for the first 4 m of its displacement, Betty applies force from the 4 m point to the 6 m point, and Chuck applies force from the 6 m point to the 8 m point. Which of the three does the most work on the object?  (A) Al (B) Betty (C) Chuck (D) Al and Chuck do the same amount of work (E) Betty and Chuck do the same amount of work

6. . When a car’s speed doubles, what happens to its kinetic energy? (A) It is quartered (B) It is halved (C) It is unchanged (D) It is doubled (E) It is quadrupled

7. . A worker does 500 J of work on a 10 kg box. If the box transfers 375 J of heat to the floor through the friction between the box and the floor, what is the velocity of the box after the work has been done on it? (A) 5 m/s (B) 10 m/s (C) 12.5 m/s (D) 50 m/s (E) 100 m/s

8. . A person on the street wants to throw an 8 kg book up to a person leaning out of a window 5 m above street level. With what velocity must the person throw the book so that it reaches the person in the window? (A) 5 m/s (B) 8 m/s (C) 10 m/s (D) 40 m/s (E) 50 m/s

9. . A forklift lifting a crate of mass 100 kg at a constant velocity to a height of 8 m over a time of 4 s. The forklift then holds the crate in place for 20 s. How much power does the forklift exert in lifting the crate? (A) 0 W (B) 2.0 103 W (C) 3.2 103 W (D) 2.0 104 W (E) 3.2 104 W

10. . A forklift lifting a crate of mass 100 kg at a constant velocity to a height of 8 m over a time of 4 s. The forklift then holds the crate in place for 20 s. How much power does the forklift exert in holding the crate in place? (A) 0 W (B) 400 W (C) 1.6 103 W (D) 4.0 103 W (E) 1.6 104 W