Energy Problems

① A jogger with a mass of 60.0 kg is moving forward at a speed of 3.0 m/s. What is the jogger's kinetic energy from this forward motion?

② A 1,500 kg car doubles its speed from 50 km/h to 100 km/h. By how many times does the kinetic energy from the car's forward motion increase?

③ If a drone accelerated from a rate of 12.6 m/s to 16 m/s in 1 min, and the amount of force required to achieve such a final velocity was 3 N, what would be the kinetic energy of the drone after it finished accelerating? What would be the difference between the two KEs between each velocities?

④ A 4.0 kg ceiling fan is placed 2.5m above the floor. What is the gravitational potential energy of the ceiling fan system relative to the floor?