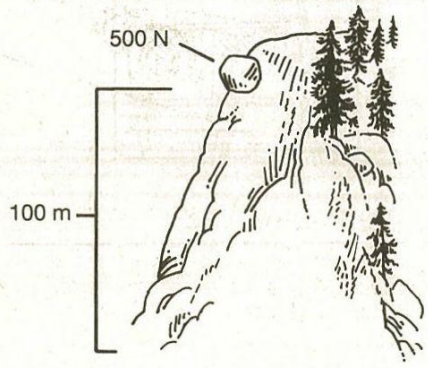
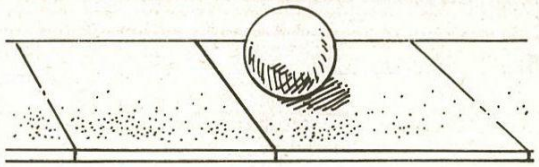
Potential Energy: Applying the Main Ideas—Part 2

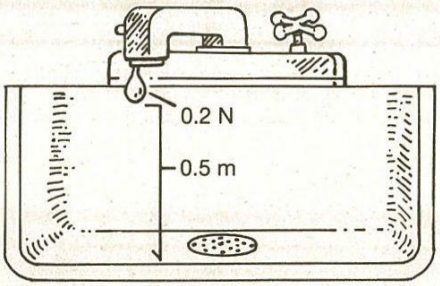
Calculate the gravitational potential energy for each situation. Be aware that the GPE *could* be zero in some cases.



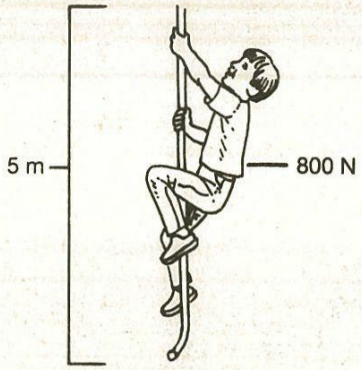
1. _____



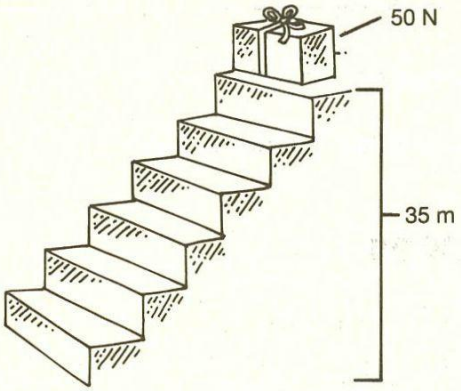
2. _____



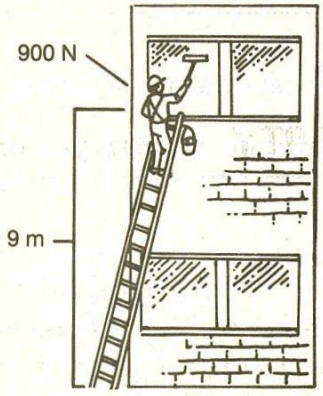
3. _____



4. _____



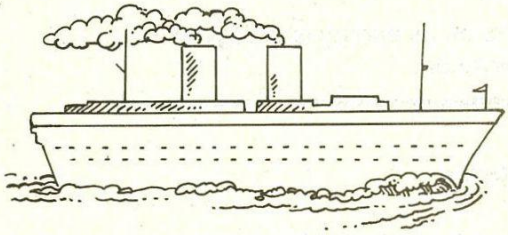
5. _____



6. _____

In each pair shown below, the items have the same kinetic energy. The masses and velocities, however, are quite different. Use your knowledge of kinetic energy to calculate the missing variable for each pair.

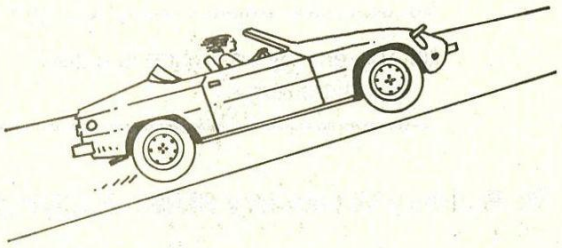
1.



m = 1900 kg

v = 8 m/sec

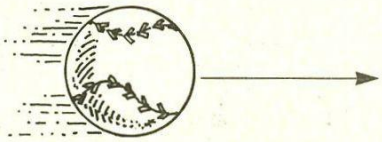
KE = KE



m = ?

v = 10 m/sec

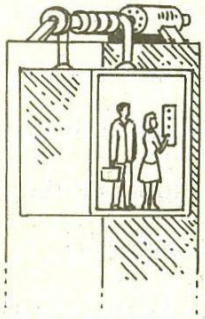
2.



m = 0.1 kg

v = 30 m/sec

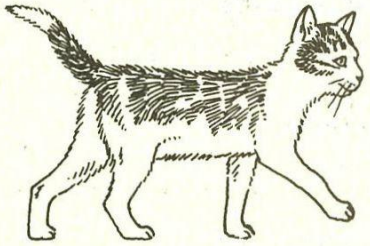
KE = KE



m = 250 kg

v = ?

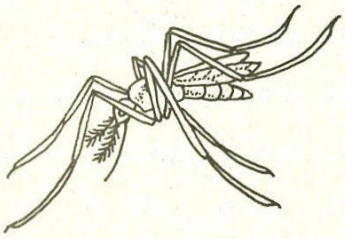
3.



m = 2 kg

v = ?

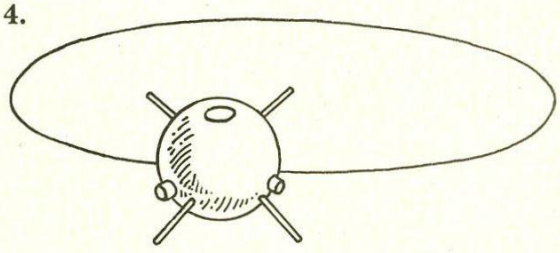
KE = KE



v = 10 m/sec

m = .005 kg

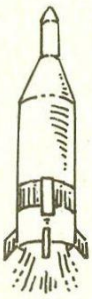
4.



m = ?

v = 8000 m/sec

KE = KE



m = 48,000 kg

v = 2000 m/sec