

KINETIC ENERGY SAMPLE PROBLEMS

1. Determine the kinetic energy of a 1000-kg roller coaster car that is moving with a speed of 20.0 m/s.
2. If the roller coaster car in the above problem were moving with twice the speed, then what would be its new kinetic energy?
3. Missy Dewater, the former platform diver for the Ringling Brother's Circus had a kinetic energy of 15 000 J just prior to hitting the bucket of water. If Missy's mass is 50 kg, then what is her speed?
4. A 750-kg compact car moving at 100 km/hr has approximately 290 000 Joules of kinetic energy. What is the kinetic energy of the same car if it is moving at 50 km/hr?
5. A 1000 kg car is moving at 25 m/s.
 - a. How much kinetic energy does the car have?
 - b. How fast would a car that has a mass of 500 kg have to go to have the same amount kinetic energy as the 1000 kg car?