

Mechanical Energy Worksheet

1. What is:

Kinetic energy's formula	Potential energy's formula	Mechanical energy's formula

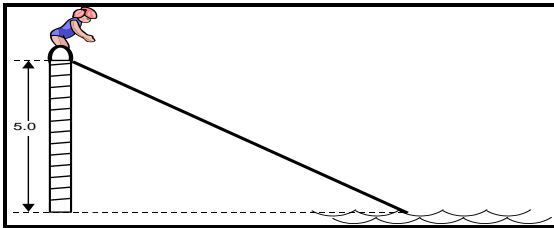
2. A quarterback throws a football weighing 200.0 g at a speed of 10.0 km/h at a height of 20.0 m. What is the football's mechanical energy? (40.0J)

3. A crane carries a metal tube weighing 95.0 kg 90.0 m above ground at a speed of 2.0km/h. What is metal tube's mechanical energy? (83800J)

4. A bus weighing 7000.0 kg travels at a speed of 50.0 km/h. It reaches an area that has a lot of hills. One hill is at 10.0 m, the next is at 4.0 m and the last is at 20.0 m high. What is the mechanical energy of the bus when it reaches the top of the third hill? (2 050 000J)

5. A stone weighing 40.0 g is tossed into the air at a speed of 40.0m/s. It reaches a height of 30.0 m. What is the ball's mechanical energy at this height? (43.8J)

6. A camp has a waterslide that is 5.0 meters high. Debra, a 55 kg camper, is sliding down the waterslide from rest as shown below.



How fast will Debra be travelling when she reaches the water? Neglect resistance forces (air and friction). (9.9m/s)