Lesson 4, Engineering Sport –
Energy Worksheet

Energy ?

Kinetic OR Potential

Remember: 

**Kinetic Energy:** \[ KE = \frac{1}{2} m \times v^2 = \frac{1}{2} m \times v \times v \text{ (units are kg-m}^2/\text{s}^2\text{)} \]

**Potential Energy:** \[ PE = m \times g \times h \text{ (units are kg-m}^2/\text{s}^2\text{)} \]

\[ \text{and } g = 9.81 \text{ (or } \sim 10) \text{ m/s}^2 \]

1. An Olympic skier is in the racing stalls waiting for the beginning of the downhill slalom race. He weighs 75kg, and the ski slope is 1,000 m high.

   a. Does he have potential or kinetic energy before the race?

   __________________________________________

   b. What is his potential energy?

   __________________________________________

   c. When he skis down the hill, he reaches a speed of 20 m/s. What is his kinetic energy?

   __________________________________________

2. An Olympic sprinter is going for gold in the 100m dash. She weighs 64kg and runs at 10 m/s.

   a. What type of energy does she have?

   __________________________________________

   b. What is her kinetic energy?

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