Physics 220
Quiz #5

Name: _____

1. A 1.50 kg ball is dropped from a height of 4.0 meters. Using conservation of energy, find its velocity just before it hits the ground.

2. A 300 kg roller coaster starts from rest at the top of a hill 15.0 m high. After rolling unassisted to the bottom of the hill, its velocity is 10.0 m/s. Find the average force of friction that acted on the car if it traveled a total distance of 40.0 m while going down the hill.

$W = F \, \Delta x$ $KE = \frac{1}{2} \, m \, v^2$ $PE = mgh$ $g = 9.8 \text{ m/s}^2$ $P = W/\Delta t = F \, v$