Name: _____

Class Period: _____

Honors Physics: Work, Power, and Energy
Extra Credit

1. Starting from rest, a 10.0 kg suitcase slides 3.00 m down a frictionless ramp inclined by 30.0° from the floor. The suitcase then slides an additional 5.00 m along a floor (with a rough surface) before coming to a stop. Find the following:
   A. What is the suitcase's velocity at the bottom of the ramp?
   B. What is the change in kinetic energy of the suitcase along the floor?
   C. What is the coefficient of kinetic friction between the suitcase and the floor?

2. An Olympic ski-jumper starts from rest 50.0 m above the ground on a frictionless ski jump. He flies off the end of the track at a 45.0° angle, 10.0 m above the ground. He continues his motion as a perfect *projectile*.
   A. What was this skier's velocity as he left the jump?
   B. What is the maximum height this skier reached? *Consider what kind of velocity, if any, he has at the top of his motion as a projectile.