HW 2.3 Kinematics & Free Fall   Per _____   Name _____

1. A gazelle jumps upward with an initial velocity of 5 m/s. What was the gazelle's maximum height above the ground?

2. A sled covers 20 m from rest and achieves a velocity of 9 m/s under constant acceleration. What is the acceleration of the sled?

3. A ball is dropped from rest at a height of 75 meters above the ground. (a) What is its velocity just before it hits the ground? (b) How long does it take to reach the ground?

4. A baseball is thrown up into the air with a velocity of 24 m/s.

   a. What is its velocity at the top?

   b. How high does it go?

   c. How long does it take to reach the top?

   d. Use the first kinematic to calculate the total time. $V_i = 24$ $V_f = -24$ m/s