Name: _____

Class Period: _____

Honors Physics: Kinematics
Extra Credit

1. A baseball is thrown with a constant speed from the pitcher's mound to a batter at home base, approximately 16.5 m away. The pitcher hears the sound of the ball hit by the bat 1.00 s after the ball was released from his hands (after the ball has traveled to the batter *and* the sound of the hit has traveled back to the pitcher). If the speed of sound is approx. 340 m/s, what is the constant speed given to the ball from the pitcher?
   A. Please provide a sketch of the scenario described above.
   B. Solve for the constant speed given to the ball from the pitcher. *Consider there are two things moving, the ball itself and the sound.

2. A racecar driver must average speed 200 km/h over the course of a time trial lasting ten laps. Each lap has a distance of x. If the first nine laps were done in 199.0 km/h, with what speed must the last lap be done to maintain the correct average speed for the entire trip? Your final answer may be given in km/h.