

**Kinematics + Freefall Challenge Problems**

1. The speed in a school zone is 11.1 m/s. A driver traveling this speed sees a child run into the road 13m ahead of his car. It takes 0.25 seconds for the driver to decide to stop, After the driver decides to stop, the car decelerates at a rate of  $8.0 \text{ m/s}^2$ ; will he stop before hitting the child? Support your answer with calculations. (Hint, the car moves at a constant speed while deciding to stop, then decelerates to a stop so you must do the problem in two parts.)