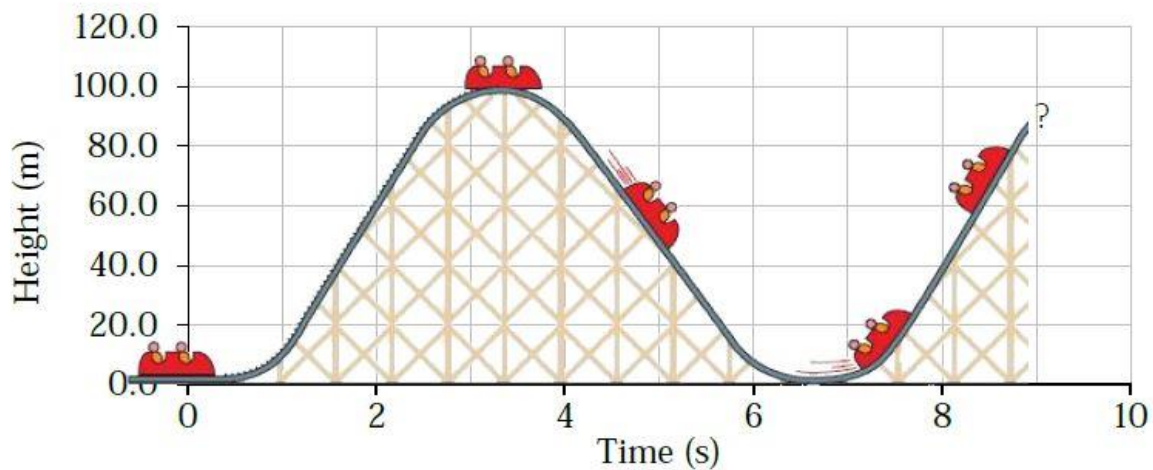


## Conservation of Energy Problems

### Part 1

The movement of a 535kg rollercoaster car has been graphed below. Use the graph to answer the questions below. We will ignore the very real effects of friction and air resistance. Don't forget to show all your work in the space provided



1. What is the potential energy of the rollercoaster car at time 4s?
2. What is the Ek of the rollercoaster car at time 8s if it has a velocity of 34.66 m/s?





9. A boulder with a mass of 682 kg is resting on the edge of a 85m cliff. If it falls off the cliff and lands on top of the coyote, what is its velocity as it strikes the ground?