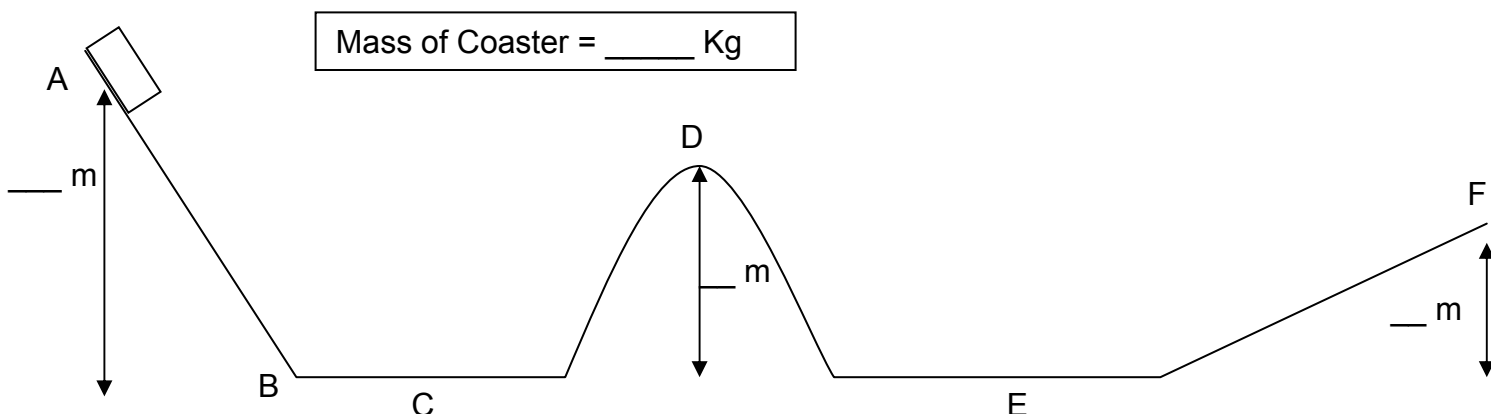


Name _____

Physics

Website: http://www.mhhe.com/physsci/physical/giambattista/roller/roller_coaster.html

Roller Coasters

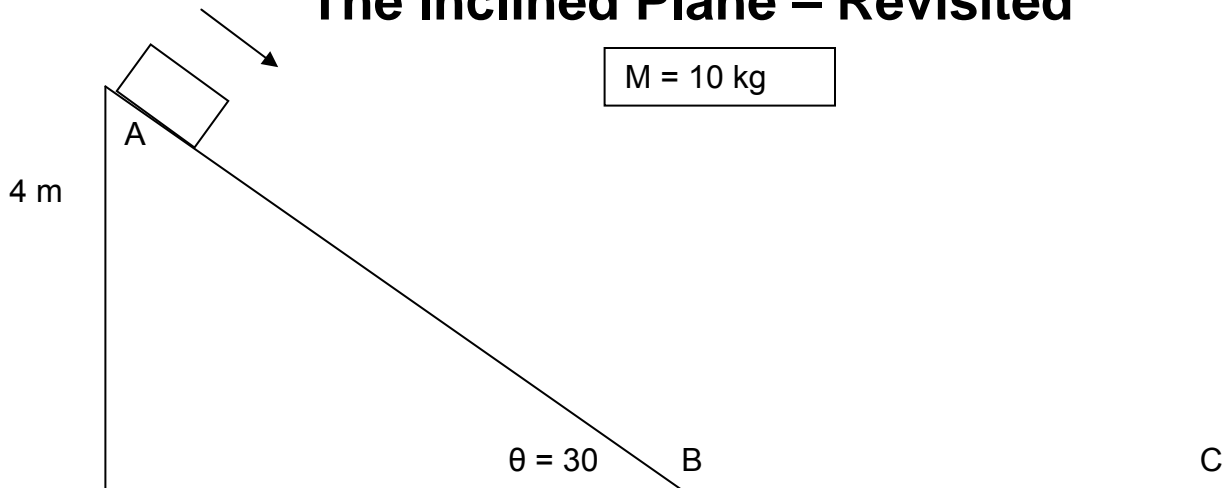


Answer the questions below based on the above diagram.

1. What is the potential energy at Point A?
2. As the coaster moves from points A \rightarrow B the gravitational potential energy turns into how much kinetic energy?
3. What is the speed of the coaster at point C?
4. Would a heavier coaster have a different speed? Show using the law of conservation of energy.
5. What happens to gravitational potential energy as you approach point D?
6. What happens to the kinetic energy of the coaster as you approach point D?
7. What is the coaster's speed at point D?
8. What is the gravitational energy at point F?
9. What happens to the sum of the changes in Potential and Kinetic energies in this system?

10. To what height does the coaster have to go to stop?

The Inclined Plane – Revisited



Two methods to solve for the blocks final velocity at point B

1. Use Motion Formula

2. Use Law of Conservation of Energy

1. Find the potential energy of the block at point A?

2. What is the speed of the block at point B?

3. If the block encounters 15 N of friction over a distance of 3 m, what will be the blocks final speed at point C?

