

PHY151 Practical Questions for Oct 31 to Nov 4

1. A 0.50 kg ball is dropped from a height of 1.00 m above the ground. It bounces up to a height of 0.85 m above the ground. What impulse did the ground give the ball? How much work did the ground do on the ball?
2. A 1.0 kg cart moving at 10.0 m/s collides with and sticks to a 2.0 kg cart which is initially at rest. They both start to go up a hill. What maximum vertical height will the two carts reach? Ignore friction and air resistance.
3. Modelling question: How far can an average person kick a football/soccer ball? Ignore air resistance. Hint: Kicking a ball is a collision.
4. Data analysis question: A 1.0-kg cart is moving toward a 2.0-kg cart which starts at rest. A force sensor attached to cart 1 measures the force between the two carts, and gives you the data below. What is the final speed of the 2.0-kg cart?

