|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| |  |  |  |  | | --- | --- | --- | --- | | **PH 201 Post-Lab 11** | **Conservation of Momentum** | **Name** |  | |
|  |
| Cart 1 has a mass of .490 kg and while passing through photogate 1 its speed is measured to be 0.758 m/s. Cart 2 has a mass of 0.520 kg and is at rest until the collision occurs when Cart 1 hits Cart 2. |
|  |
| 1. What is the momentum of Cart 1 initially? |
|  |
| |  |  | | --- | --- | |  |  | |
|  |
| |  |  | | --- | --- | |  |  | |
|  |
| 2. What is the momentum of Cart 2 initially? |
|  |
| |  |  | | --- | --- | |  |  | |
|  |
| |  |  | | --- | --- | |  |  | |
|  |
| 3. If after the collision Cart 1 stopped completely, what is the velocity of Cart 2 after the collision? Regardless of what you found for questions 1 and 2 use |
|  |
| and . |
|  |
| |  |  |  | | --- | --- | --- | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | | |
|  |
| |  |  | | --- | --- | |  |  | |
|  |
|  |
|  |
|  |
| **Over 🡪** |
|  |
| 4. If instead, after the collision Cart 1 has a velocity of -0.010 m/s (“-“sign indicates Cart 1 is going opposite direction after than the direction it initially had), what is the velocity of Cart 2 after the collision? Once again, Regardless of what you found for questions 1 and 2  use and . |
|  |
| |  |  |  | | --- | --- | --- | |  |  | | |  |  | | |  |  | | |  |  | | |  | |  | |  |  | | |  | |  | |  |  | | |  |  | | |
| |  |  | | --- | --- | |  |  | |
|  |
| 5. Describe what an “elastic” collision is: |
|  |
|  |
|  |
| 6. Describe what a “totally inelastic” collision is: |
|  |
|  |
|  |
|  |
|  |