

Classwork 3/21

1. A grocery shopper tosses a 9.0 kg bag of rice into a stationary 18.0 kg grocery cart. The bag hits the cart with a horizontal speed of 5.5 m/s toward the front of the cart. What is the final speed of the cart and bag?
2. A 1.50×10^4 kg railroad car moving at 7.00 m/s to the North collides with and sticks to another railroad car of the same ~~mass~~ mass that is moving in the same direction at 1.50 m/s. What is the velocity of the ~~two~~ joined cars after the collision?
3. A dry cleaner throws a 22 kg bag of laundry onto a stationary 9.0 kg cart. The cart and the laundry bag begin moving at 3.0 m/s to the right. Find the velocity of the laundry bag before the collision.

~~Perfectly~~ Perfectly inelastic collision

$$p_o = p_f$$

$$m_1 v_1 + m_2 v_2 = (m_1 + m_2) v_f$$

Objects stick together