

Momentum 6

1. A mass of 12 kg moving at 3 m/s strikes a mass of 3 kg moving at 2 m/s in the opposite direction. Find the final velocity of each object in the following cases.

a. The collision is elastic.

b. The collision is completely inelastic.

c. The collision is inelastic and the 12 kg object moves away with a speed of 2 m/s forward.

2. Find the change in momentum for each of the cases above.

3. A mass of 5 kg moving at 10 m/s strikes a mass of 5 kg moving at 5 m/s in the opposite direction. Find the final velocity of each object in the following cases.

a. The collision is elastic.

b. The collision is completely inelastic.

c. The collision is inelastic and the first mass moves with a speed of 2 m/s in the backwards direction..

4. Find the change in momentum for each of the cases above.