

Elastic Collisions

SPH4U

An interaction in which _____ are conserved
is called an elastic collision

Equations:

Example: A ball of mass 1 kg with an initial velocity of 10 m/s [E] strikes a stationary ball of mass 1 kg in a completely elastic collision. What is the final velocity of both balls?

First consider conservation of momentum:

Now consider conservation of kinetic energy:

This equation has two solutions:

The second describes a situation in which _____
_____.

This is _____.

The first describes a situation in which _____
_____.

This _____.