Task #1
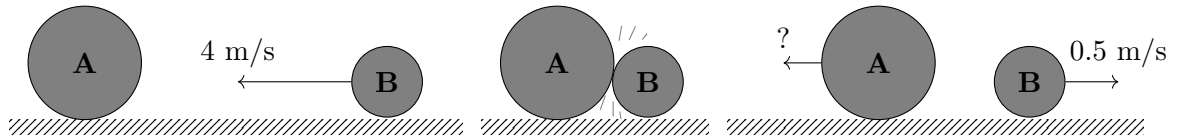
Consider the folowing objects that collide on a frictionless surface. If $m_A = 8.4$ kg and $m_B = 2.1$ kg, what is the final velocity of object A? Object A starts at rest.

Task #2

A 1500-kg truck traveling at 15 m/s rear-ends a stationary 900-kg car. After the collision, the two vehicles stick together. Before friction has a chance to take effect, what is the speed of the cars?

Task #3

Calculate the velocity of this rifle's recoil directly after firing: