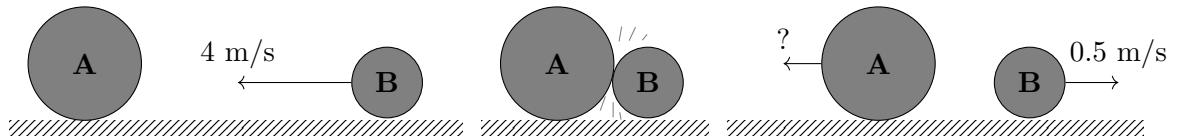


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### Task #1

Consider the following objects that collide on a frictionless surface. If  $m_A = 4$  kg and  $m_B = 1$  kg, what is the final velocity of object A?



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### 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?

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### Task #3

A 900-kg cannon fires a 5-kg cannonball at a speed of 30 m/s. What is the speed of the cannon's recoil?

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