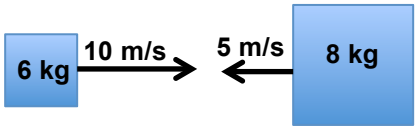
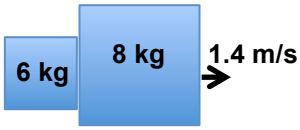
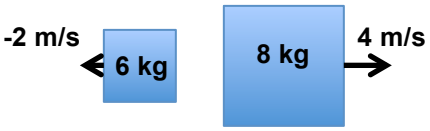
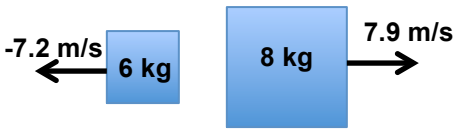
The first diagram below represents objects just before a collision. The calculations for the momentum and kinetic energy before the collision are shown. Use right as positive.

Before Collision	Total Momentum	Total Kinetic Energy
	$m_6v_{6i} + m_8v_{8i} =$ (6 kg)(10 m/s) + (8 kg)(-5 m/s) = 20 kg m/s	$\frac{1}{2} m_6v_{6i}^2 + \frac{1}{2} m_8v_{8i}^2 =$ $\frac{1}{2}$(6 kg)(10 m/s)^2 + $\frac{1}{2}$(8 kg)(-5 m/s)^2 = 400 Kg m^2/s^2 = 400 J

The following diagrams represent outcomes of the collision. Calculate the momentum and kinetic energy after each collision shown. Does the outcome describe a completely inelastic, partially inelastic, elastic, or impossible collision? Provide a brief explanation to accompany each answer.

After Collision	Total Momentum	Total Kinetic Energy
1) 		
Completely elastic, completely inelastic, partially inelastic or impossible? Explain		
2) 		
Completely elastic, completely inelastic, partially inelastic or impossible? Explain		

After Collision	Total Momentum	Total Kinetic Energy
3)  		
Completely elastic, completely inelastic, partially inelastic or impossible? Explain		
4) 		
Completely elastic, completely inelastic, partially inelastic or impossible? Explain		