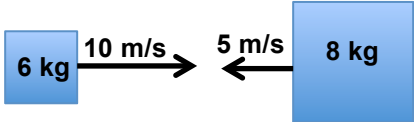
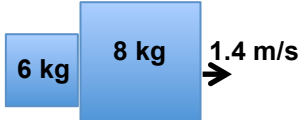
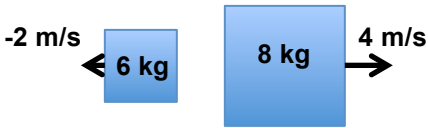
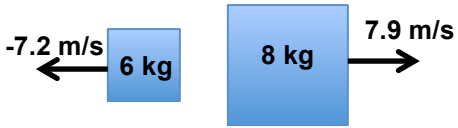



The first diagram below represents objects just before a collision. The calculations for the momentum and kinetic energy before the collision are shown. Use right as positive.

Before Collision	Total Momentum	Total Kinetic Energy
	$m_6 v_{6i} + m_8 v_{8i} =$ $(6 \text{ kg})(10 \text{ m/s})$ $+ (8 \text{ kg})(-5 \text{ m/s})$ $= 20 \text{ kg m/s}$	$\frac{1}{2} m_6 v_{6i}^2 + \frac{1}{2} m_8 v_{8i}^2 =$ $\frac{1}{2}(6 \text{ kg})(10 \text{ m/s})^2$ $+ \frac{1}{2}(8 \text{ kg})(-5 \text{ m/s})^2$ $= 400 \text{ Kg m}^2/\text{s}^2$ $= 400 \text{ J}$

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
<p>3)</p>  <p>The diagram shows two blue rectangular blocks. The left block is labeled '6 kg' and has an arrow pointing left with '-7.2 m/s' above it. The right block is labeled '8 kg' and has an arrow pointing right with '7.9 m/s' above it.</p>		
<p>Completely elastic, completely inelastic, partially inelastic or impossible? Explain</p>		
<p>4)</p>  <p>The diagram shows two blue rectangular blocks. The left block is labeled '6 kg' and has an arrow pointing left with '-10 m/s' above it. The right block is labeled '8 kg' and has an arrow pointing right with '5 m/s' above it.</p>		
<p>Completely elastic, completely inelastic, partially inelastic or impossible? Explain</p>		