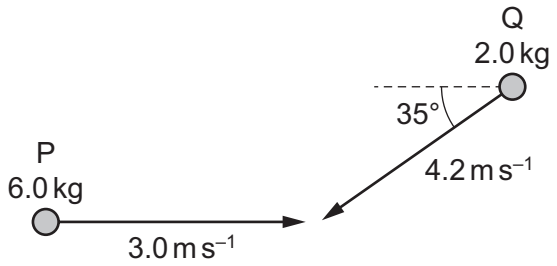
7 Objects P and Q form an isolated system.

Object P has mass 6.0 kg and is moving at a speed of $3.0\,m\,s^{-1}$.

Object Q has mass 2.0 kg and is moving at a speed of $4.2\,m\,s^{-1}$ at an angle of 35° to the path of P.



Objects P and Q collide and stick together.

What is the magnitude of the component of the final momentum of the combined objects in the original direction of P?

A $9.6\,kg\,m\,s^{-1}$ **B** $11\,kg\,m\,s^{-1}$ **C** $13\,kg\,m\,s^{-1}$ **D** $25\,kg\,m\,s^{-1}$