**1C Momentum as a Vector (Not AS)**

1. A particle of mass 0.2kg is moving with velocity when it receives an impulse . Find the new velocity of the particle.
2. An ice hockey puck of mass 0.17kg receives an impulse **Q** Ns. Immediately before the impulse the velocity of the puck is and immediately afterwards its velocity is . Find the magnitude of **Q** and the angle between **Q** and **i**.
3. A particle of mass 0.15kg is moving with velocity when it collides with a particle of mass 0.25kg moving with velocity . The two particles coalesce and form one particle of mass 0.4kg. Find the velocity of the combined particle.