9.15. Since the object is initially at rest, its total momentum is zero. After it explodes the total momentum of the fragments must also be zero. With $\vec{p}_1 = (-2,2)$ kg m/s and $\vec{p}_2 = (3,0)$ kg m/s, the requirement that $\vec{p}_1 + \vec{p}_2 + \vec{p}_3 = 0$ means that $\vec{p}_3 = (-1,-2)$ kg m/s.