Question			Answer	Marks	AO	Guidance	
9	(a)		$\begin{pmatrix}3\\-7\end{pmatrix}+\begin{pmatrix}-5\\10\end{pmatrix}+\mathbf{F}_3=\mathbf{0}$	M1	3.3	Use $\mathbf{F}_1+\mathbf{F}_2+\mathbf{F}_3=\mathbf{0}$ Correct answer implies this mark	Allow sign errors. One correct component for $\mathbf{F}_3$ can imply this mark
			$\mathbf{F}_3=\begin{pmatrix}2\\-3\end{pmatrix}$ (N)	A1 [2]	1.1	cao – isw if magnitude of the force is found after correct vector seen	oe e.g. $-\begin{pmatrix}-2\\3\end{pmatrix}, 2\mathbf{i}-3\mathbf{j}$
9	(b)		$\begin{pmatrix}3\\-7\end{pmatrix}+\begin{pmatrix}-5\\10\end{pmatrix}+\begin{pmatrix}8\\1\end{pmatrix}=2.5\mathbf{a}$	M1	3.4	Use of $\mathbf{F}=m\mathbf{a}$ with m = 2.5 and at least one correct component for $\mathbf{F}=\begin{pmatrix}6\\4\end{pmatrix}$ (either stated or implied by working)	
			$\mathbf{a}=\begin{pmatrix}2.4\\1.6\end{pmatrix}$ (m s^{-2})	A1 [2]	1.1	cao – isw if magnitude of the acceleration is found after correct vector seen	