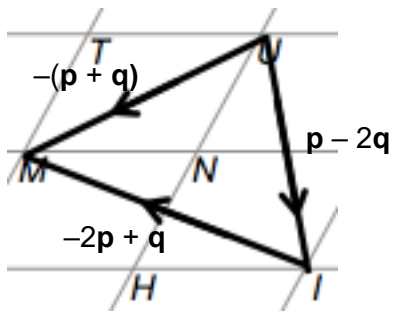


Topic Test 1 Mark Scheme

Vectors - Foundation

Q	Answer	Mark	Comments
1	$\begin{pmatrix} 2 \\ 5 \end{pmatrix}$	B1	
2	$\begin{pmatrix} 4 \\ 3 \end{pmatrix}$	B1	
3	$\begin{pmatrix} 4 \\ -4 \end{pmatrix}$	B1	
4	$\mathbf{a} + \mathbf{b} + \mathbf{c} = \mathbf{0}$	B1	
5a	$\begin{pmatrix} -6 \\ 12 \end{pmatrix}$	B1	
5b	$\begin{pmatrix} 3 \\ -2 \end{pmatrix}$	B1	
6a	$\mathbf{p} - \mathbf{q}$	B1	
6b	\vec{YB} or \vec{ZC} or $\vec{A'D}$ or $\vec{B'E}$	B1	Arrows not necessary
6c		B2	B1 for any two vectors correct.

Q	Answer	Mark	Comments
7a	$(a =) 3$	B1	
	$(b =) - 3$	B1	
7b	$d = 1\frac{1}{2}$	B1	
	$-4\frac{1}{2}$	B1ft	ft their d
8	$\begin{pmatrix} 6 \\ -3 \end{pmatrix}$	B2	B1 for vector $\begin{pmatrix} 6 \\ a \end{pmatrix}$ or $\begin{pmatrix} b \\ -3 \end{pmatrix}$
9		B2	<p>B2 for correct translation.</p> <p>B1 for translation of $\begin{pmatrix} 3 \\ 2 \end{pmatrix}$</p> <p>B1 for translation of $\begin{pmatrix} -3 \\ a \end{pmatrix}$</p> <p>or translation of $\begin{pmatrix} b \\ -2 \end{pmatrix}$ (ie correct orientation in light grey areas)</p>
10	$\begin{pmatrix} 1 \\ -8 \end{pmatrix}$	B2	B1 for each component