

1	$\begin{pmatrix} -6 \\ 17 \end{pmatrix}$	B1	
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Q	Answer	Mark	Comment
2	$3\mathbf{a} + \mathbf{b} + \mathbf{a} + 6\mathbf{b}$ or $4\mathbf{a} + 7\mathbf{b}$	M1	$\overrightarrow{EH}$ may be seen on diagram or as part of a longer vector sum
	$2 \times \text{their } (4\mathbf{a} + 7\mathbf{b})$ or $8\mathbf{a} + 14\mathbf{b}$	M1dep	$\overrightarrow{FG}$ may be seen on diagram
	Any correct path from F to E eg their $(8\mathbf{a} + 14\mathbf{b}) + (-2\mathbf{a} - 15\mathbf{b})$ or their $(8\mathbf{a} + 14\mathbf{b}) - (2\mathbf{a} + 15\mathbf{b})$ or $(-2\mathbf{a} - 15\mathbf{b}) + (3\mathbf{a} + \mathbf{b}) + (\mathbf{a} + 6\mathbf{b})$ or $2\mathbf{a} - 8\mathbf{b}$ and their $(8\mathbf{a} + 14\mathbf{b}) + \text{their } (2\mathbf{a} - 8\mathbf{b}) + (-\mathbf{a} - 6\mathbf{b}) + (-3\mathbf{a} - \mathbf{b})$ or their $(8\mathbf{a} + 14\mathbf{b}) + \text{their } (2\mathbf{a} - 8\mathbf{b}) + \text{their } (-4\mathbf{a} - 7\mathbf{b})$	M1dep	$\overrightarrow{FG} + \overrightarrow{GE}$ $\overrightarrow{FG} - \overrightarrow{EG}$ oe $\overrightarrow{GE} + \overrightarrow{ED} + \overrightarrow{DH}$ oe $\overrightarrow{GH}$  oe $\overrightarrow{FG} + \overrightarrow{GH} + \overrightarrow{HD} + \overrightarrow{DE}$ oe $\overrightarrow{FG} + \overrightarrow{GH} + \overrightarrow{HE}$
	$6\mathbf{a} - \mathbf{b}$	A1	SC3 $-6\mathbf{a} + \mathbf{b}$ or $\mathbf{b} - 6\mathbf{a}$
	<b>Additional Guidance</b>		
	Missing brackets and incorrect addition or subtraction signs can be recovered for all four marks eg $8\mathbf{a} + 14\mathbf{b} - 2\mathbf{a} + 15\mathbf{b}$ recovered to $6\mathbf{a} - \mathbf{b}$ Condone missing brackets for the third mark eg $8\mathbf{a} + 14\mathbf{b} - 2\mathbf{a} + 15\mathbf{b}$ and answer $6\mathbf{a} + 29\mathbf{b}$		M1M1M1A1  M1M1M1A0
	To receive marks expressions must be in terms of $\mathbf{a}$ and $\mathbf{b}$		
	Allow subtractions shown in vertical form eg $8\mathbf{a} + 14\mathbf{b}$ $- 2\mathbf{a} + 15\mathbf{b}$		M1M1M1

Q	Answer	Mark	Comments
3	$\begin{pmatrix} -7 \\ 10 \end{pmatrix}$	B1	

Q	Answer	Mark	Comments	
4(a)	$\begin{pmatrix} 4 \\ -1 \end{pmatrix}$	B2	B1 $\begin{pmatrix} 4 \\ \dots \end{pmatrix}$ or $\begin{pmatrix} \dots \\ -1 \end{pmatrix}$ or $(4, -1)$ SC1 $\begin{pmatrix} -4 \\ 1 \end{pmatrix}$ or $\begin{pmatrix} -1 \\ 4 \end{pmatrix}$	
	Additional Guidance			
	Ignore fraction lines			
Q	Answer	Mark	Comments	
4(b)	$\begin{pmatrix} 12 \\ 8 \end{pmatrix}$	B1		
	Additional Guidance			
	$4\begin{pmatrix} 3 \\ 2 \end{pmatrix}$ or $\begin{pmatrix} 12 \\ 8 \end{pmatrix}$ in working with answer $\begin{pmatrix} 3 \\ 2 \end{pmatrix}$		B0	
	Ignore fraction lines			
Q	Answer	Mark	Comments	
4(c)	$\begin{pmatrix} 0 \\ -2 \end{pmatrix}$	B1		