

8	(a)	$\begin{pmatrix} 6 \\ 8 \end{pmatrix} - \begin{pmatrix} -3 \\ 20 \end{pmatrix}$	M1	May see $\begin{pmatrix} 9 \\ -12 \end{pmatrix}$ or $\begin{pmatrix} -9 \\ 12 \end{pmatrix}$	
		$ \overrightarrow{AB} = 15$ or $\sqrt{225}$ so $ \overrightarrow{AB} < 200$ or $ \overrightarrow{AB} $ is not greater than 200	A1	May see $\sqrt{9^2 + (-12)^2}$ oe CWO	
			[2]		
8	(b)	$\overrightarrow{AC} = \begin{pmatrix} 18 \\ -24 \end{pmatrix} = 2 \times \begin{pmatrix} 9 \\ -12 \end{pmatrix}$	M1	FT their AB ; allow mark for comparison of their AB and AC	
		so A , B and C are collinear	A1		
			[2]		