Question	Scheme	Marks	AOs
5	Attempts to add $\overrightarrow{AB}$ and $\overrightarrow{BC}$ **AND** set equal to $k \times \begin{pmatrix} 3 \\ -4 \\ 3 \end{pmatrix}$	M1	3.1a
	Correct equations $\begin{pmatrix} 2p+q \\ q-3p \\ 6 \end{pmatrix} = k \begin{pmatrix} 3 \\ -4 \\ 3 \end{pmatrix}$	A1	1.1b
	Deduces that $k = 2$ OR $\overrightarrow{AB} + \overrightarrow{BC} = \begin{pmatrix} 6 \\ -8 \\ 6 \end{pmatrix}$	A1	2.2a
	Sets up a pair of simultaneous equations from their $$\overrightarrow{AB} + \overrightarrow{BC} = k \times \begin{pmatrix} 3 \\ -4 \\ 3 \end{pmatrix} \text{ formula}$$ and attempts to solve their $\begin{array}{l} 2p+q = 6 \\ q-3p = -8 \end{array}$ to reach values for p and q	dM1	2.1
	$p = \dfrac{14}{5}, q = \dfrac{2}{5}$	A1	1.1b
		(5)	
			(5 marks)

Notes:

M1: Attempts to to add $\overrightarrow{AB}$ and $\overrightarrow{BC}$ **AND** set equal to $k \times \begin{pmatrix} 3 \\ -4 \\ 3 \end{pmatrix}$

A1: For a correct statement. Eg $\begin{pmatrix} 2p+q \\ q-3p \\ 6 \end{pmatrix} = k \begin{pmatrix} 3 \\ -4 \\ 3 \end{pmatrix}$ This may be seen as three separate equations.

A1: Deduces that $k = 2$

dM1: Sets up a pair of equations in p and q (dependent upon M1) and attempts to solve

A1: $p = \dfrac{14}{5}, q = \dfrac{2}{5}$