25	$\overrightarrow{AB} = 2\mathbf{b} - 2\mathbf{a}$ or $\overrightarrow{BA} = 2\mathbf{a} - 2\mathbf{b}$ $\overrightarrow{MN} = 10\mathbf{a} - \mathbf{b}$ or $\overrightarrow{NM} = -10\mathbf{a} + \mathbf{b}$		5	M1 for finding $\overrightarrow{AB}$ or $\overrightarrow{BA}$ or $\overrightarrow{MN}$ or $\overrightarrow{NM}$
	eg $\overrightarrow{MP} = -\mathbf{b} + 2\mathbf{a} + k(2\mathbf{b} - 2\mathbf{a})$ and $\overrightarrow{MP} = l(10\mathbf{a} - \mathbf{b})$ or eg $\overrightarrow{MP} = \mathbf{b} + k(2\mathbf{a} - 2\mathbf{b})$ and $\overrightarrow{MP} = l(10\mathbf{a} - \mathbf{b})$ or eg $\overrightarrow{PN} = 8\mathbf{a} + k(2\mathbf{a} - 2\mathbf{b})$ and $\overrightarrow{PN} = l(10\mathbf{a} - \mathbf{b})$ or eg $\overrightarrow{AP} = 8\mathbf{a} + k(\mathbf{b} - 10\mathbf{a})$ and $\overrightarrow{AP} = l(2\mathbf{b} - 2\mathbf{a})$ or eg $\overrightarrow{AP} = -2\mathbf{a} + \mathbf{b} + k(10\mathbf{a} - \mathbf{b})$ and $\overrightarrow{AP} = l(2\mathbf{b} - 2\mathbf{a})$ or eg $\overrightarrow{AM} = k(2\mathbf{b} - 2\mathbf{a}) + l(\mathbf{b} - 10\mathbf{a})$ and $\overrightarrow{AM} = -2\mathbf{a} + \mathbf{b}$			M2 for writing eg $\overrightarrow{MP}$ or $\overrightarrow{PN}$ or $\overrightarrow{AP}$ or $\overrightarrow{AM}$ in two different ways in terms of **a** and **b** (M1 for writing eg $\overrightarrow{MP}$ or $\overrightarrow{PN}$ or $\overrightarrow{AP}$ or $\overrightarrow{AM}$ in one way) These may be written as eg $\overrightarrow{PM}$ in place of $\overrightarrow{MP}$
	eg $2-2k=10\lambda$ and $-1+k=-\lambda$ (from $\overrightarrow{MP}$ 1st) or eg $2k=10\lambda$ and $1-2k=-\lambda$ (from $\overrightarrow{MP}$ 2nd) or eg $8+2k=10\lambda$ and $-2k=-\lambda$ (from $\overrightarrow{PN}$) or eg $8-10k=-2\lambda$ and $k=2\lambda$ (from $\overrightarrow{AP}$ 1st) or eg $-2+10k=-2\lambda$ and $1-k=2\lambda$ (from $\overrightarrow{AP}$ 2nd) or eg $-2k-10\lambda=-2$ and $2k+\lambda=1$ (from $\overrightarrow{AM}$)			M1 dep M3 for writing a pair of equations using their variables. $\overrightarrow{MP}$ (1st) leads to $\lambda=\frac{1}{9}, k=\frac{4}{9}$ $\overrightarrow{MP}$ (2nd) leads to $\lambda=\frac{1}{9}, k=\frac{5}{9}$ $\overrightarrow{PN}$ leads to $\lambda=\frac{8}{9}, k=\frac{4}{9}$ $\overrightarrow{AP}$ (1st) leads to $\lambda=\frac{4}{9}, k=\frac{8}{9}$ $\overrightarrow{AP}$ (2nd) leads to $\lambda=\frac{4}{9}, k=\frac{1}{9}$ $\overrightarrow{AM}$ leads to $\lambda=\frac{1}{9}, k=\frac{4}{9}$
		4 : 5		A1 cao
				Total 5 marks