23	$\overrightarrow{AB} = 2\mathbf{b} - 2\mathbf{a}$ oe **or** $\overrightarrow{BA} = 2\mathbf{a} - 2\mathbf{b}$ oe **or** $\overrightarrow{AM} = \mathbf{b} - \mathbf{a}$ oe **or** $\overrightarrow{MA} = \mathbf{a} - \mathbf{b}$ oe **or** $\overrightarrow{BM} = \mathbf{b} - \mathbf{a}$ oe **or** $\overrightarrow{MB} = \mathbf{a} - \mathbf{b}$ oe		6	M1	for finding $\overrightarrow{AB}$ **or** $\overrightarrow{BA}$ **or** $\overrightarrow{AM}$ **or** $\overrightarrow{MA}$ **or** $\overrightarrow{BM}$ **or** $\overrightarrow{MB}$
	e.g. $\overrightarrow{OM} = 2\mathbf{a} + (\mathbf{b} - \mathbf{a})\ (= \mathbf{a} + \mathbf{b})$ oe **or** $\overrightarrow{MO} = (\mathbf{b} - \mathbf{a}) - 2\mathbf{b}\ (= -\mathbf{a} - \mathbf{b})$ oe **or** $\overrightarrow{AN} = \frac{4}{3}\mathbf{b} - 2\mathbf{a}$ oe **or** $\overrightarrow{NA} = 2\mathbf{a} - \frac{4}{3}\mathbf{b}$ oe			M1	for finding $\overrightarrow{OM}$ **or** $\overrightarrow{MO}$ **or** $\overrightarrow{AN}$ **or** $\overrightarrow{NA}$
	e.g. $\overrightarrow{OP} = 2\mathbf{a} + \lambda\left(\frac{4}{3}\mathbf{b} - 2\mathbf{a}\right)$ oe **or** $\overrightarrow{OP} = \frac{4}{3}\mathbf{b} + \lambda\left(2\mathbf{a} - \frac{4}{3}\mathbf{b}\right)$ oe **or** $\overrightarrow{OP} = \mu(\mathbf{a} + \mathbf{b})$ oe **OR** $\overrightarrow{MP} = \mathbf{a} - \mathbf{b} + k\left(\frac{4}{3}\mathbf{b} - 2\mathbf{a}\right)$ oe **or** $\overrightarrow{MP} = \mathbf{b} - \mathbf{a} - \frac{2}{3}\mathbf{b} + k\left(2\mathbf{a} - \frac{4}{3}\mathbf{b}\right)$ oe **or** $\overrightarrow{MP} = t(-\mathbf{a} - \mathbf{b})$ oe			M1	for finding $\overrightarrow{OP}$ **or** $\overrightarrow{PO}$ **or** $\overrightarrow{MP}$ **or** $\overrightarrow{PM}$
	e.g. $2\mathbf{a} + \lambda\left(\frac{4}{3}\mathbf{b} - 2\mathbf{a}\right) = \mu(\mathbf{a} + \mathbf{b})$ oe **or** $\frac{4}{3}\mathbf{b} + \lambda\left(2\mathbf{a} - \frac{4}{3}\mathbf{b}\right) = \mu(\mathbf{a} + \mathbf{b})$ oe **or** $\mathbf{a} - \mathbf{b} + k\left(\frac{4}{3}\mathbf{b} - 2\mathbf{a}\right) = t(-\mathbf{a} - \mathbf{b})$ oe **or** $\mathbf{b} - \mathbf{a} - \frac{2}{3}\mathbf{b} + k\left(2\mathbf{a} - \frac{4}{3}\mathbf{b}\right) = t(-\mathbf{a} - \mathbf{b})$ oe			M1	for setting up an equation for $\overrightarrow{OP}$ **or** $\overrightarrow{MP}$
	$\mu = \frac{4}{5}$ **or** $t = \frac{1}{5}$			M1	for finding μ or t for either $\overrightarrow{OP} = \mu\overrightarrow{OM}$ **or** $\overrightarrow{MP} = t\overrightarrow{MO}$
		4 : 1		A1	cao (dep on M3)
					Total 6 marks