19	(a)		$-2\mathbf{a}+\mathbf{b}$	1	B1	oe
	(b)	eg $\overrightarrow{OP}=\mathbf{a}+y(-\mathbf{a}+6\mathbf{b})$ and $\overrightarrow{OP}=2\mathbf{a}+x("-2\mathbf{a}+\mathbf{b}")$ $\overrightarrow{AP}=-\mathbf{a}+y(-\mathbf{a}+6\mathbf{b})$ and $\overrightarrow{AP}=x("-2\mathbf{a}+\mathbf{b}")$ $\overrightarrow{AB}=x("-2\mathbf{a}+\mathbf{b}")+y(-\mathbf{a}+6\mathbf{b})$ and $\overrightarrow{AB}=-2\mathbf{a}+6\mathbf{b}$ $\overrightarrow{NP}=-\mathbf{b}+\mathbf{a}+y(-\mathbf{a}+6\mathbf{b})$ and $\overrightarrow{NP}=x("2\mathbf{a}-\mathbf{b}")$ $\overrightarrow{MP}=x(-\mathbf{a}+6\mathbf{b})$ and $\overrightarrow{MP}=\mathbf{a}+y("-2\mathbf{a}+\mathbf{b}")$		4	M2	ft from (a), for writing eg $\overrightarrow{OP}$ or $\overrightarrow{AP}$ or $\overrightarrow{AB}$ or $\overrightarrow{NP}$ or $\overrightarrow{MP}$ <u>or similar</u> in two different ways in terms of **a** and **b** (M1 for writing eg $\overrightarrow{OP}$ or $\overrightarrow{AP}$ or $\overrightarrow{AB}$ or $\overrightarrow{NP}$ or $\overrightarrow{MP}$ <u>or similar</u> in one way in terms of **a** and **b**) These may be written as eg $\overrightarrow{PO}$ in place of $\overrightarrow{OP}$
		eg $x=6y$ and $2-2x=1-y$ (from $\overrightarrow{OP}$) $x=6y$ and $-2x=-1-y$ (from $\overrightarrow{AP}$) $6=x+6y$ and $-2=-2x-y$ (from $\overrightarrow{AB}$) $2x=1-y$ and $-x=-1+6y$ (from $\overrightarrow{NP}$) $-x=1-2y$ and $6x=y$ (from $\overrightarrow{MP}$)			M1	dep M2 for writing a pair of equations using their variables $\overrightarrow{OP}$ leads to $x=\frac{6}{11}, y=\frac{1}{11}$ $\overrightarrow{AP}$ leads to $x=\frac{6}{11}, y=\frac{1}{11}$ $\overrightarrow{AB}$ leads to $x=\frac{6}{11}, y=\frac{10}{11}$ $\overrightarrow{NP}$ leads to $x=\frac{5}{11}, y=\frac{1}{11}$ $\overrightarrow{MP}$ leads to $x=\frac{1}{11}, y=\frac{6}{11}$
		Vector method required	6 : 5		A1	dep on M2, oe eg $\frac{6}{11}:\frac{5}{11}$
						Total 5 marks