Question	Answer	Marks	Guidance
10(c)	$\mathbf{c}(h-1)+\mathbf{a}\left(\frac{3h}{4}+\frac{3}{4}\right)=\frac{1}{4}\mathbf{a}+k\mathbf{c}$	**M1**	For equating *their* answer to (a) to *their* answer to (b)
	$\mathbf{c}(h-1)+\mathbf{a}\left(\frac{3h}{4}+\frac{3}{4}\right)=\frac{1}{4}\mathbf{a}+k\mathbf{c}$ $h-1=k$	**M1**	For attempt to equate like vectors once.
	$h=\frac{4}{3}$	**A1**	
	$k=\frac{1}{3}$	**A1**	
11(a)	$x+2y=10$ $x+y=2$	**M1**	For attempt to solve simultaneously
	$(-6, 8)$	**A1**	
	$x+2y=10$ $x+y=-2$	**M1**	For attempt to solve simultaneously
	$(-14, 12)$	**A1**	
	Alternative $x^2+x(10-x)+\frac{(10-x)^2}{4}=4$ or $(10-2y)^2+2y(10-2y)+y^2=4$	**(M1)**	For attempt to eliminate one of the variables using $(x+y)^2=4$
	$x^2+20x+84=0$ or $y^2-20y+96=0$	**(M1)**	**Dep** for attempt to obtain a 3 term quadratic equation = 0 and solve to obtain at least one solution, allow 1 arithmetic error
	$(-14, 12)$	**(A1)**	
	$(-6, 8)$	**(A1)**	
	Mid-point of AB: $(-10, 10)$	**M1**	For attempt to obtain the mid-point using *their* coordinates for A and B.
	Gradient of line perpendicular to $AB = 2$	**M1**	For attempt to obtain the perpendicular gradient using *their* coordinates for A and B.
	$y-\textit{their}\ 10=\textit{their}\ 2(x-\textit{their}(-10))$	**M1**	
	$20-10=2(-5+10)$ oe	**A1**	For verification

Question	Answer	Marks	Guidance
11(b)	$(10, 50)$	**2**	**FT** on t*heir* midpoint **B1** for each coordinate
	$(-20, -10)$	**2**	**FT** on t*heir* midpoint **B1** for each coordinate