Question	Scheme	Marks
4(a)	$\left(3\times14-2\times12-p=0\Rightarrow\right)p=18$	B1
	$3y-2q-"18"=0\Rightarrow 3\times2-2q-"18"=0\Rightarrow q=$ $q=-6$	M1 A1 [3]
(b)	$\left(X\left(x,y\right)=\right)\left(\dfrac{1\times"-6"+2\times12}{3},\dfrac{1\times2+2\times14}{3}\right)$ oe $=\left(6,10\right)$	B1B1 or M1A1
	$\left(\text{Gradient of } AB=\right)=\dfrac{2}{3}$ oe	B1
	$\left(\text{Gradient of } L=\right)-\dfrac{1}{"\frac{2}{3}"}\left(=-\dfrac{3}{2}\right)$	B1ft
	$y-"10"=-\dfrac{1}{"\frac{2}{3}"}\left(x-"6"\right)\left(\Rightarrow y=-\dfrac{3}{2}x+19\right)$	M1
	$\Rightarrow 3x+2y-38=0$ oe Where a, b and c are integers.	A1 [6]
		Total 9 marks

	Mark	Notes
(a)	B1	For $p=18$
	M1	Uses their value of p and substitutes $y=2$ and finds a value for q.
	A1	For the correct value of q.
First 2 marks of (b) – use the scheme which gives the most marks to candidates.		
(b)	B1 (M1 ePen)	For one correct value $(6, 10)$.
	B1 (A1 ePen)	For both correct values $(6, 10)$.
	or M1	Correct method for finding both coordinates, using their q. Look for any equivalent methods eg similar triangles.
	or A1	Both correct values.
	B1	For a fully correct unsimplified or simplified gradient of AB Note this mark is awarded for **finding or stating** the gradient and if simplified, it must be clear that $\dfrac{2}{3}$ is not a fraction from the given ratio. Accept $\dfrac{14-2}{12--6}$ This mark may be implied for a correct gradient of $-\dfrac{3}{2}$ used in further work.
	B1ft	For finding the negative reciprocal of their gradient – does not need to be simplified.
	M1	For a full and correct method to find the equation for the line L using **their** coordinates of X and **their** perpendicular gradient. This need not be simplified. If $y=mx+c$ is used, the correct value of c must be found for their coordinates and gradient. It must be clear the candidate is using their coordinates for X and not, for example simply the numbers from the coordinates of A and B
	A1	For the correct equation of the line in the required form – any equivalent where a, b and c are integers.