

Q1. (2018)

(A)

30(a)	$\begin{pmatrix} 1 \\ -1 \end{pmatrix}$	B2	B1 for 1 correct value in correct position Condone a divisor line
	Additional Guidance		

(B)

30(b)	$\begin{pmatrix} 6 \\ -10 \end{pmatrix} + \begin{pmatrix} 2 \times -4 \\ 2 \times 7 \end{pmatrix}$ or $\begin{pmatrix} 6 \\ -10 \end{pmatrix} + \begin{pmatrix} -8 \\ 14 \end{pmatrix}$ or $\begin{pmatrix} -2 \\ 4 \end{pmatrix}$	M1	oe
	$\begin{pmatrix} -2 \\ 4 \end{pmatrix} = 2 \begin{pmatrix} -1 \\ 2 \end{pmatrix}$ or $\begin{pmatrix} -2 \\ 4 \end{pmatrix}$ and $k = 2$ or $2\mathbf{b} = \begin{pmatrix} -2 \\ 4 \end{pmatrix}$	A1	oe
	Additional Guidance		
	Condone vectors written as coordinates, eg $(-1, 2)$ is half of $(-2, 4)$		
	Must see $\begin{pmatrix} -2 \\ 4 \end{pmatrix}$ or $(-2, 4)$ to award the A mark		
	Condone missing brackets and divisor lines		
	$\begin{pmatrix} -2 \\ 4 \end{pmatrix}$ seen and $\mathbf{a} + 2\mathbf{c}$ is $2\mathbf{b}$		M1A1
	$\begin{pmatrix} -2 \\ 4 \end{pmatrix} \div 2 = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$		M1A1
	$\begin{pmatrix} 6 \\ -10 \end{pmatrix} + 2 \begin{pmatrix} -4 \\ 7 \end{pmatrix}$		M0

Q2. (2019)

(A)

22(a)	22.6 or $\frac{113}{5}$ or $22\frac{3}{5}$	B1	
	Additional Guidance		
	Condone $22\frac{6}{10}$		B1

(B)

22(b)	Alternative method 1		
	n^2 will be positive and $\frac{12}{n}$ will be negative and positive – negative = positive	B2	oe B1 n^2 will be positive or $\frac{12}{n}$ will be negative
	Alternative method 2		
	n^2 will be positive and $-\frac{12}{n}$ will be positive and positive + positive = positive	B2	oe B1 n^2 will be positive or $-\frac{12}{n}$ will be positive
	Additional Guidance		
	For ' n^2 will be positive' accept the square of a negative number is a positive		
	For ' n^2 will be positive' condone square or squared numbers are positive		
	For 'positive – negative = positive' condone $+(ve) - -(ve) = +(ve)$		