

1	(a)	42	P1	for process to find an equation in a and b , eg $a \times 2^2 + b \times 2 = -2$ ($4a + 2b = -2$) or $a \times 4^2 + b \times 4 = 12$ ($16a + 4b = 12$)	Allow one arithmetic error in elimination, eg $16a + 8b = -8$ and $16a + 4b = 12$ leading to $4b = 20$ but no subtraction sign seen
			P1	for process to find a pair of simultaneous equations and eliminate one unknown, eg $16a + 8b = -8$ and $16a + 4b = 12$ and subtraction or $16a + 4b = 12$ and $8a + 4b = -4$ and subtraction	
			A1	for $a = 2$ and $b = -5$	
	(b)	$n^2 - n$	A1	cao	
			M1	for correct method, eg n^2 seen as a term	
A1	for $n^2 - n$ oe				

2	$2n^2 - 3$	M1	begins to work with 2 nd differences	6 10 14 18 22 4 4 4 4
		M1	identifies $2n^2$ as part of the expression eg gives the sequence 2, 8, 18, 32, ... or gives a quadratic expression which includes the term $2n^2$	A quadratic expression of the form $2n^2 + bn + c$ can be awarded the first 2 marks
		A1	oe	

3	$n^2 - 2n$	M1	for correct deduction from differences, eg 2nd difference of 2 implies $1n^2$ or gives a quadratic expression which includes the term $1n^2$ or states 1,4,9,16,25 and deduces 2,4,6,8,10	
		A1	oe	

4	$3n^2 + 2n + 5$	M1	for a correct start to a method to find the n th term, eg equal 2nd differences imply a term in n^2	Need to see constant second difference found and n^2
		M1	for working with $3n^2$, eg $3n^2$ and sequence 7, 9, 11, ...	$3n^2 + 2n$ implies M2
		A1	for $3n^2 + 2n + 5$	