

Question Number	Scheme	Marks
8 (a)	$a = 2 - 3 = -1 \quad d = 2 \quad (l = 2n - 3)$ Uses $S_n = \frac{n}{2}(a + l)$, $S_n = \frac{n}{2}(-1 + (2n - 3)) \quad S_n = \frac{n}{2}(n - 2) \quad ***$ OR $S_n = \frac{n}{2}(2 \times -1 + (n - 1)2) \Rightarrow S_n = \frac{n}{2}(2n - 4) \Rightarrow S_n = n(n - 2) \quad ***$	B1B1
(b)	$5(2n + 4 - 3) = 3(n - 3)((n - 3) - 2)$ $3n^2 - 34n + 40 = 0 \quad 3\text{TQ} \Rightarrow (3n - 4)(n - 10) = 0 \Rightarrow n = 10$	M1A1cso (4) M1A1 M1 dM1A1 (5) (9)
(a) B1 B1 M1 A1cso (b) M1 A1 M1 dM1 A1	$a = -1$ No working needed - need not be shown explicitly $d = 2$ No working needed or if $S_n = \frac{n}{2}(a + l)$ used, give B1 for correct substitution if no value shown anywhere for d Using either formula for S_n with their a and d Obtaining the GIVEN result with no errors seen Using the GIVEN t_n and S_n in the equation or start from correct basic formulae Correct unsimplified equation Obtaining a three term quadratic, terms in any order NB A1 on e-pen Factorising their quadratic or correct use of formula/completing the square. Cao $n = 10$ Award A0 if single correct answer not identified. If final answers shown without working (implying calculator solution) give M1 only if both correct answers to the quadratic are shown. A1 then for identifying the single correct solution for this problem.	