

Section 1: Summing series

Exercise level 3

1. Find an expression, in its simplest form, for the sum of the first n terms of the series

$$2^2 + 5^2 + 8^2 + 11^2 + \dots$$

2. The r th term of a finite series is denoted u_r , and the sum of n terms is denoted

by S_n such that $S_n = \sum_{r=1}^n u_r$.

If $S_n = 2n^2 + 7n$, express u_r in terms of r and find $\sum_{r=n}^{2n} u_r$.