

Advanced Higher Maths
SQA 2017 Paper
Question 10



S_n is defined by $\sum_{r=1}^n \left(r^2 + \frac{1}{3}r \right)$.

(a) Find an expression for S_n , fully factorising your answer. 2

(b) Hence find an expression for $\sum_{r=10}^{2p} \left(r^2 + \frac{1}{3}r \right)$ where $p > 5$. 2

Answers:

(a) $\frac{n(n+1)^2}{3}$

(b) $\frac{2p(2p+1)^2}{3} - 300$