2014 12a Evaluate the arithmetic series 2 + 5 + 8 + 11 + … + 1094. **2**

Arithmetic series: $a = 2$, $d = 3$, $T_n = 1094$

To find n: $T_n = a + (n - 1)d$

$1094 = 2 + (n - 1)3$

$1094 = 3n - 1$

$3n = 1095$

$n = 365$

To find sum: $S_n = \frac{n}{2}(a + l)$

$= \frac{365}{2}(2 + 1094)$

$= 200\ 020$

State Mean: **1.38**

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by BOSTES.

Board of Studies: Notes from the Marking Centre

The majority of candidates scored full marks for this part.

Common problems were:

- using incorrect formulae for S_n and T_n;
- confusing S_n, T_n and d in their substitution;
- only finding the value of n;
- making calculator entry errors.

http://www.boardofstudies.nsw.edu.au/hsc_exams/2014/pdf_doc/2014-maths.pdf