09	2c	Evaluate $\sum_{k=1}^{4}(-1)^k k^2$.	2

State Mean: **1.57/2**

$$\sum_{k=1}^{4}(-1)^k k^2 = (-1)^1.(1)^2 + (-1)^2.(2)^2 + (-1)^3.(3)^2 + (-1)^4.(4)^2$$
$$= -1 + 4 - 9 + 16$$
$$= 10$$

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by the Board of Studies

Board of Studies: Notes from the Marking Centre

Most candidates recognised the need to sum a series of four terms. However, many candidates incorrectly chose to use arithmetic or geometric summation formulae. In this part, full setting out including the use of brackets around the substitution of negative numbers $(-1)^1 \times 1^2 + (-1)^2 \times 2^2 + (-1)^3 \times 3^2 + (-1)^4 \times 4^2$, helped candidates to avoid careless errors involving the misuse of signs.

Source: http://www.boardofstudies.nsw.edu.au/hsc_exams/