2014 11a Rationalise the denominator of $\frac{1}{\sqrt{5}-2}$. **2**

$$\frac{1}{\sqrt{5}-2} = \frac{1}{\sqrt{5}-2} \times \frac{\sqrt{5}+2}{\sqrt{5}+2}$$
$$= \frac{\sqrt{5}+2}{1}$$
$$= \sqrt{5} + 2$$

State Mean: **1.78**

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

Board of Studies: Notes from the Marking Centre

This part was done well by most candidates.

Common problems were:

- multiplying only either the numerator or the denominator by the conjugate
- multiplying the numerator and denominator by $\frac{\sqrt{5}-2}{\sqrt{5}-2}$ or $\frac{\sqrt{5}}{\sqrt{5}}$
- incorrectly expanding $(\sqrt{5} - 2)(\sqrt{5} + 2)$ to give either 3 or 9
- not using conjugates at all
- expressing the answer as a decimal, indicating the direct use of a calculator.

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