**2015** **11 c** Express $\frac{8}{2+\sqrt{7}}$ with a rational denominator. **2**

$$\frac{8}{2+\sqrt{7}} = \frac{8}{2+\sqrt{7}} \times \frac{2-\sqrt{7}}{2-\sqrt{7}}$$
$$= \frac{8(2-\sqrt{7})}{4-7}$$
$$= \frac{8(2-\sqrt{7})}{-3}$$
$$= \frac{8(\sqrt{7}-2)}{3}$$

State Mean: **1.76**

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

## Board of Studies: Notes from the Marking Centre

(c) This part was done well and correctly set out by most candidates.

Common problems were:

- multiplying only the denominator by the conjugate
- multiplying the numerator and denominator by $2 + \sqrt{7}$ or by$2\sqrt{7}$ or by $\sqrt{7}$
- incorrectly expanding the binomial product.