2016 **11 d** Evaluate $\int_0^1 (2x+1)^3\,dx$. **2**

$$\int_0^1 (2x+1)^3\,dx = \left[\frac{(2x+1)^4}{4\times 2}\right]_0^1$$

$$= \left[\frac{(2x+1)^4}{8}\right]_0^1$$

$$= \frac{1}{8}[(2(1)+1)^4 - (2(0)+1)^4]$$

$$= \frac{1}{8}[81-1]$$

$$= 10$$

State Mean: **1.63**

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

BOSTES: Notes from the Marking Centre

This part was attempted well by the majority of candidates. Common problems were:

- incorrectly integrating and using a denominator of 4 instead of 8
- assuming a substitution of 0 into the integral gives a result of 0
- differentiating instead of integrating.