2015 **11 h** Find $\int \frac{x}{x^2-3}\,dx$. **2**

$$\int \frac{x}{x^2-3}\,dx = \frac{1}{2}\int \frac{2x}{x^2-3}\,dx$$

$$= \frac{1}{2}\log_e(x^2-3) + c$$

State Mean: **1.57**

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

Board of Studies: Notes from the Marking Centre

(h) The majority of candidates recognised that the primitive was a log function.

Common problems were:

- incorrectly setting up $\int \frac{f'(x)}{f(x)}dx$, for example, using $2\int \frac{2x}{x^2-3}dx$ or $2\int \frac{x}{x^2-3}dx$
- incorrectly using or omitting brackets, for example $\frac{1}{2}(\ln x^2 - 3) + c$ or $\frac{1}{2}\ln x^2 - 3 + c$.