

**2013 11c** Differentiate  $(\sin x - 1)^8$ .**2**

Using the function of a function rule:

$$\begin{aligned}\frac{d}{dx}[(\sin x - 1)^8] &= 8(\sin x - 1)^7 \cdot \frac{d}{dx}(\sin x - 1) \\ &= 8(\sin x - 1)^7 \cdot \cos x \\ &= 8 \cos x (\sin x - 1)^7\end{aligned}$$

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**

Most candidates completed this question correctly.

Common problems were:

- not differentiating  $(\sin \theta - 1)$  correctly
- forgetting to write the power in their solution.

Source: [http://www.boardofstudies.nsw.edu.au/hsc\\_exams/](http://www.boardofstudies.nsw.edu.au/hsc_exams/)