05	2c	(ii) Evaluate $\int_0^{\frac{\pi}{6}} \cos 3x \ dx$.	2

$$\int_0^{\frac{\pi}{6}} \cos 3x \ dx = \left[\frac{1}{3}\sin 3x\right]_0^{\frac{\pi}{6}}$$

$$= \frac{1}{3}[\sin 3(\frac{\pi}{6}) - \sin 3(0)]$$

$$= \frac{1}{3}[\sin\frac{\pi}{2} - \sin 0]$$

$$= \frac{1}{3}[1 - 0]$$

$$= \frac{1}{3}$$

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by the Board of Studies

Board of Studies: Notes from the Marking Centre

This part was generally done well. However, not all responses included correct simplification after the limits of integration had been applied.

Source: http://www.boardofstudies.nsw.edu.au/hsc_exams/