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12	11e	Find the coordinates of the focus of the parabola $x^2 = 16(y - 2)$.	2
$x^2 = 16(y - 2)$ which is of the form $(x - h)^2 = 4a(y - k)$ \therefore vertex $(0, 2)$, and $a = 4$, As parabola is concave up, focus is $(0, 6)$			State Mean: 1.28/2

* 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

A significant number of candidates had difficulty with this part. In better responses, candidates wrote down the focal length $a = 4$ and vertex $(0, 2)$ of the parabola and then found the coordinates of the focus $(0, 6)$. In weaker responses, the most common error was to assume that the focus of every parabola is $(0, a)$. In better responses, candidates usually included a diagram rather than relying on a formula such as $S(h, a + k)$.

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