12	11e	Find the coordinates of the focus of the parabola $x^2 = 16(y - 2)$.	2

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$x^2 = 16(y - 2)$ 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)

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/**