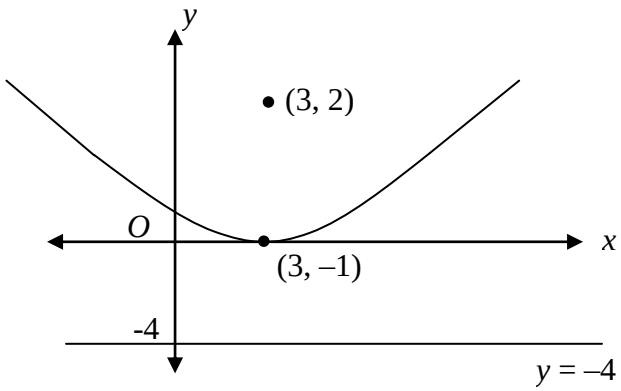
11	3b	A parabola has focus (3, 2) and directrix $y = -4$. Find the coordinates of the vertex.	2

State Mean: **1.46/2**



Focal length $a = 3$.

$\therefore$ Vertex is (3, –1).

* 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

In responses that included an accurate diagram, the point $(3, -1)$ as the vertex was easily obtained. A significant number correctly stated that $x = 3$, but found an incorrect y value. Errors resulted from not knowing that the vertex is halfway between the focus and directrix or from a lack of basic cartesian plane knowledge, with a common incorrect solution being $(-1, 3)$.

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