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12	11c	Find the equation of the tangent to the curve $y = x^2$ at the point where $x = 3$.	2
$y = x^2$ $\frac{dy}{dx} = 2x$ <p>At $x = 3$, gradient $m = 2 \times 3$ $= 6$</p> <p>At $x = 3$, $y = (3)^2$ $= 9 \quad \therefore (3, 9)$</p> <p>Using $y - y_1 = m(x - x_1)$ $y - 9 = 6(x - 3)$ $y - 9 = 6x - 18$ $\therefore 6x - y - 9 = 0$</p>			State Mean: 1.64/2

* 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

Most candidates earned full marks for this part. A common mistake was to use $2x$ as the gradient rather than evaluating to find a numerical answer, resulting in a quadratic rather than a line.

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