11 The point P divides the interval joining A(-1, -2) to B(9, 3) internally in the ratio 4:1. Find the coordinates of P.

State Mean: A(-1, -2), B(9, 3) and 4:1 $P(x, y) = \left(\frac{mx_2 + nx_1}{m + n}, \frac{my_2 + ny_1}{m + n}\right)$ $= \left(\frac{4(9) + 1(-1)}{4 + 1}, \frac{4(3) + 1(-2)}{4 + 1}\right)$ $= \left(\frac{35}{5}, \frac{10}{5}\right)$ $= (7, 2) \qquad \therefore P(7, 2)$

Board of Studies: Notes from the Marking Centre

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Source: http://www.boardofstudies.nsw.edu.au/hsc exams/

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