

7 In this question you must show detailed reasoning.

A curve has parametric equations $x = t^3 + t^2$, $y = t^2 + 2t$ for all real values of t .

The curve passes through the point P with coordinates $(2, 3)$.

- (a)** Show that the equation of the tangent to the curve at the point P can be written as $5y = 4x + 7$.
[5]
- (b)** Determine the coordinates of the point where the tangent to the curve at P meets the curve again.
[4]