

7 Points  $P$  and  $Q$  lie on the curve with equation  $y = x^4$

The  $x$ -coordinate of  $P$  is  $x$

The  $x$ -coordinate of  $Q$  is  $x + h$

7 (a) Expand  $(x + h)^4$

[2 marks]

7 (b) Hence, find an expression, in terms of  $x$  and  $h$ , for the gradient of the line  $PQ$

[1 mark]

7 (c) Explain how to use the answer from part (b) to obtain the gradient function of  $y = x^4$

[2 marks]