



NOT TO SCALE

The diagram shows the graph of $y = 3x - x^3$.
 The graph crosses the x -axis at A , at O and at B .
 The turning points of the graph are at P and at Q .

- (a) Find the x -coordinate of A and the x -coordinate of B .
 Give your answers as exact values.

x -coordinate of A

x -coordinate of B

[3]

- (b) (i) Differentiate $3x - x^3$.

..... [2]

- (ii) Find the coordinates of P and Q .

P (..... ,)

Q (..... ,)

[4]