2 (a) Express $x^2 + 4x - 8$ in the form $(x + a)^2 + b$ where a and b are constants whose values are to be found.

(2)

(b) Use algebra to solve the simultaneous equations

$$y = x^2 + 4x - 8$$
$$y = 2x + 7$$

(5)

The curve C has equation $y = x^2 + 4x - 8$
The straight line L has equation $y = 2x + 7$

Using the same axes and the results of part (a) and part (b),

(c) sketch C and L, showing clearly the coordinates of the turning point of C and the coordinates of the points of intersection of C and L.

(4)

Question 2 continued

Question 2 continued

Question 2 continued

(Total for Question 2 is 11 marks)