

Name:

Date:

Drawing Quadratic Graphs

GCSE

Edexcel
Mathematics
Grade (9-1)

Mark

Score (%)

| |
|----------|
| <hr/> 26 |
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| |
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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

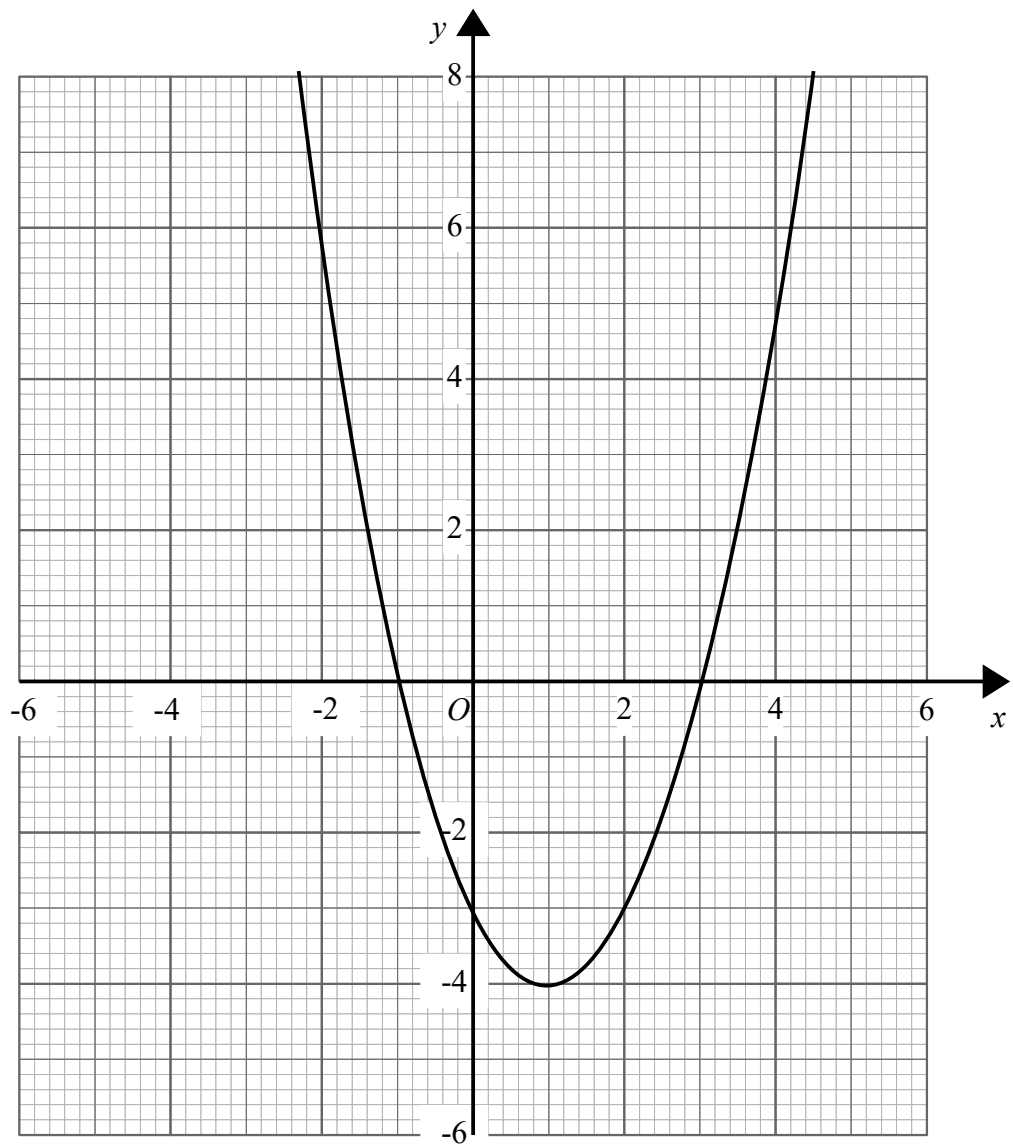
Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1 Here is the graph of $y = x^2 - 2x - 3$



(a) Write down the turning point of the graph $y = x^2 - 2x - 3$

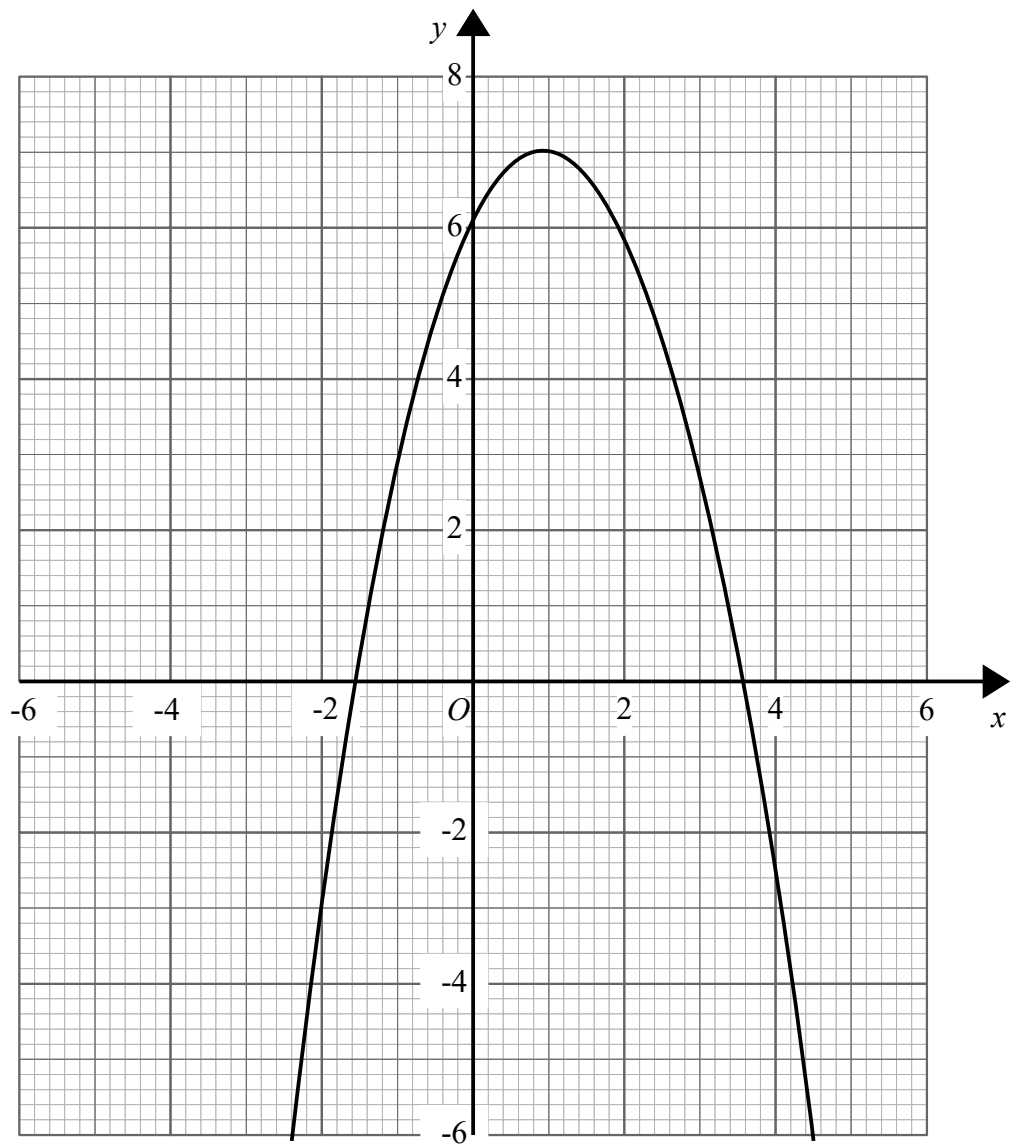
(..... ,)
(1)

(b) Use the graph to find the roots of the equation $x^2 - 2x - 3 = 0$

.....
(2)

(Total for question 1 is 3 marks)

2 Here is the graph of $y = 2x + 6 - x^2$



(a) Write down the turning point of the graph $y = 2x + 6 - x^2$

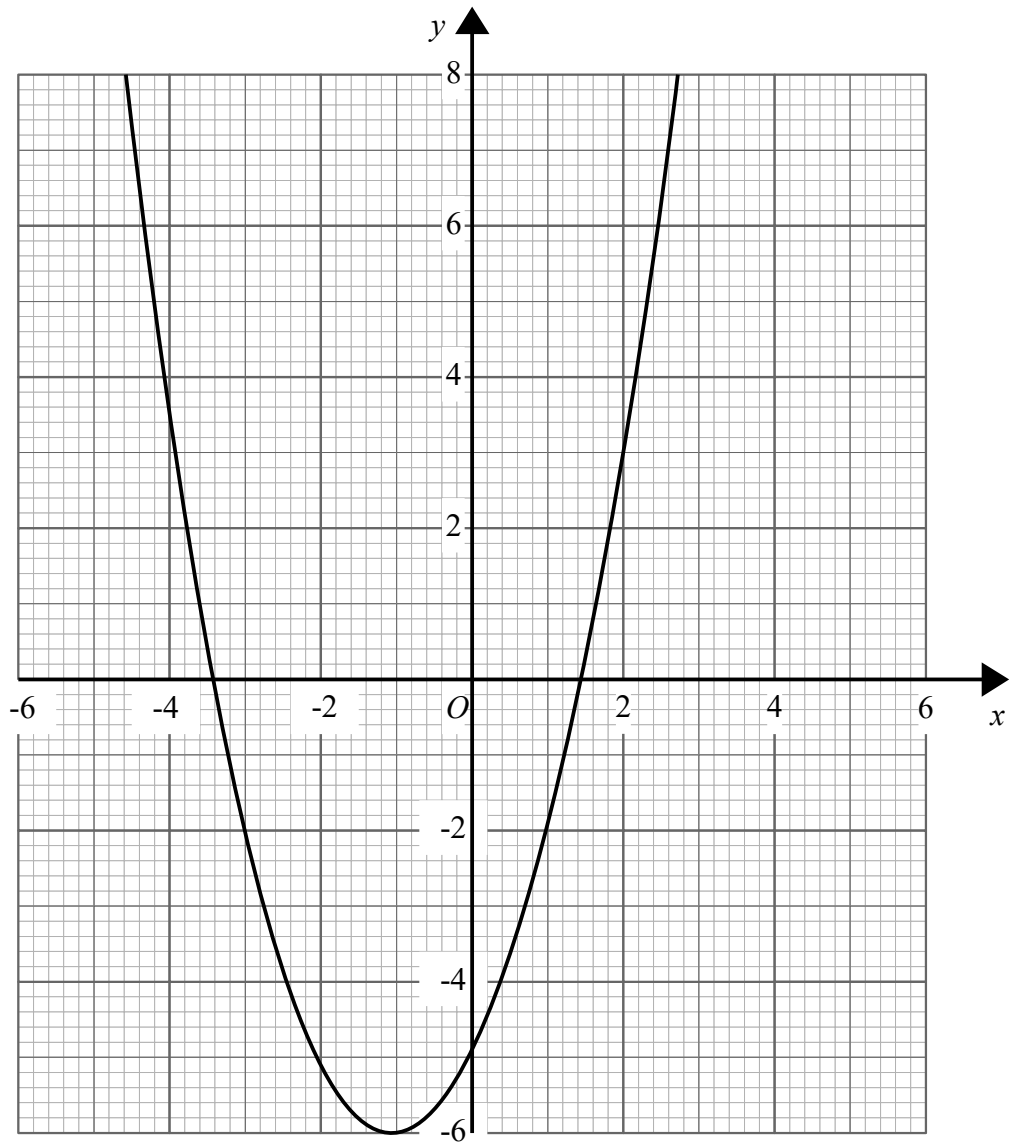
(..... ,)
(1)

(b) Use the graph to find the roots of the equation $x^2 = 2x + 6$

.....
(2)

(Total for question 2 is 3 marks)

3 Here is the graph of $y = x^2 + 2x - 5$



(a) Write down the turning point of the graph $y = x^2 + 2x - 5$

(..... ,)
(1)

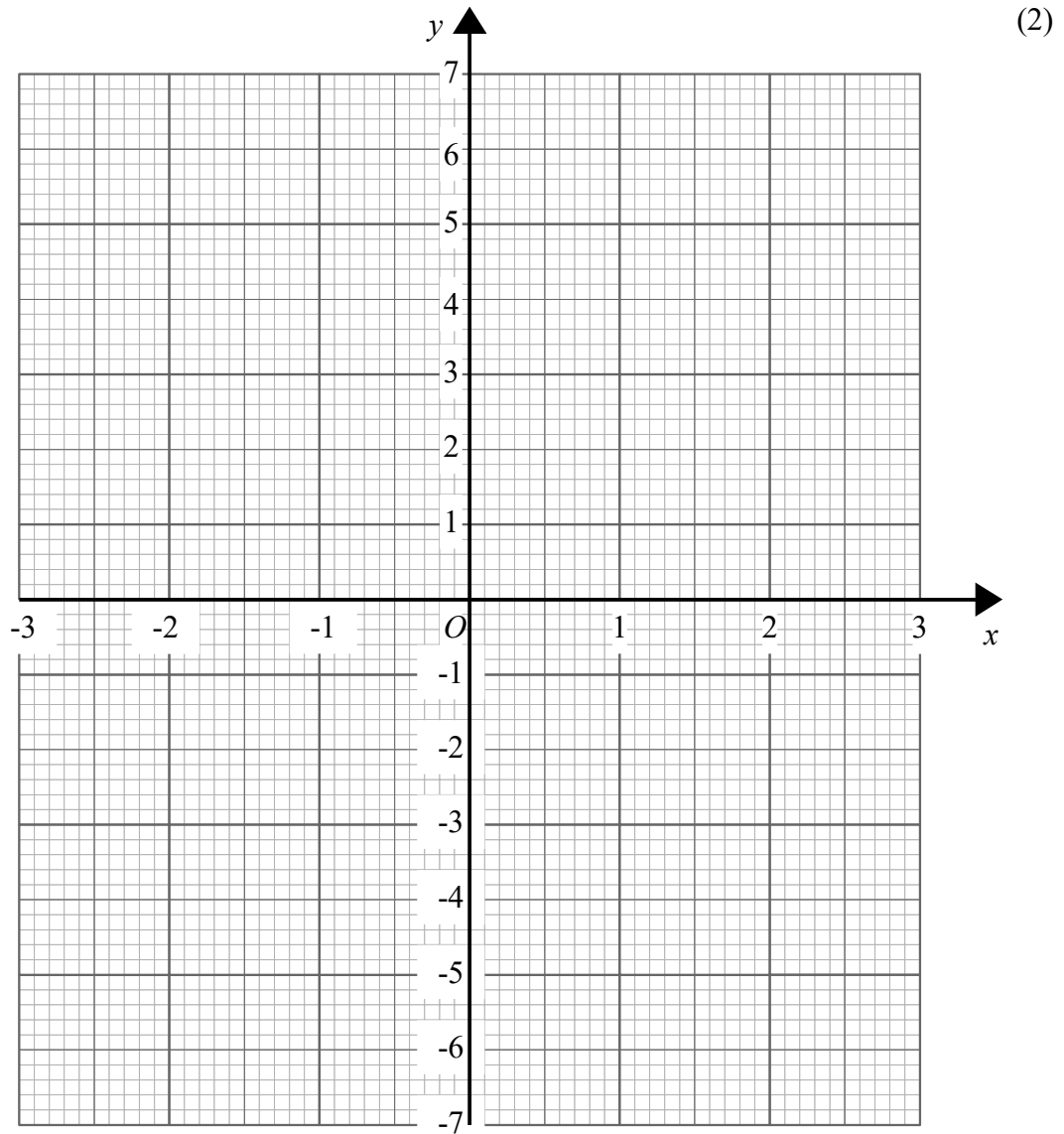
(b) Use the graph to find the roots of the equation $x^2 + 2x - 5 = 2$

.....
(2)

(Total for question 3 is 3 marks)

4 Complete the table of values for $y = x^2 + x - 6$

| | | | | | | | |
|-----|----|----|----|----|---|---|---|
| x | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| y | | | | -6 | | 0 | |



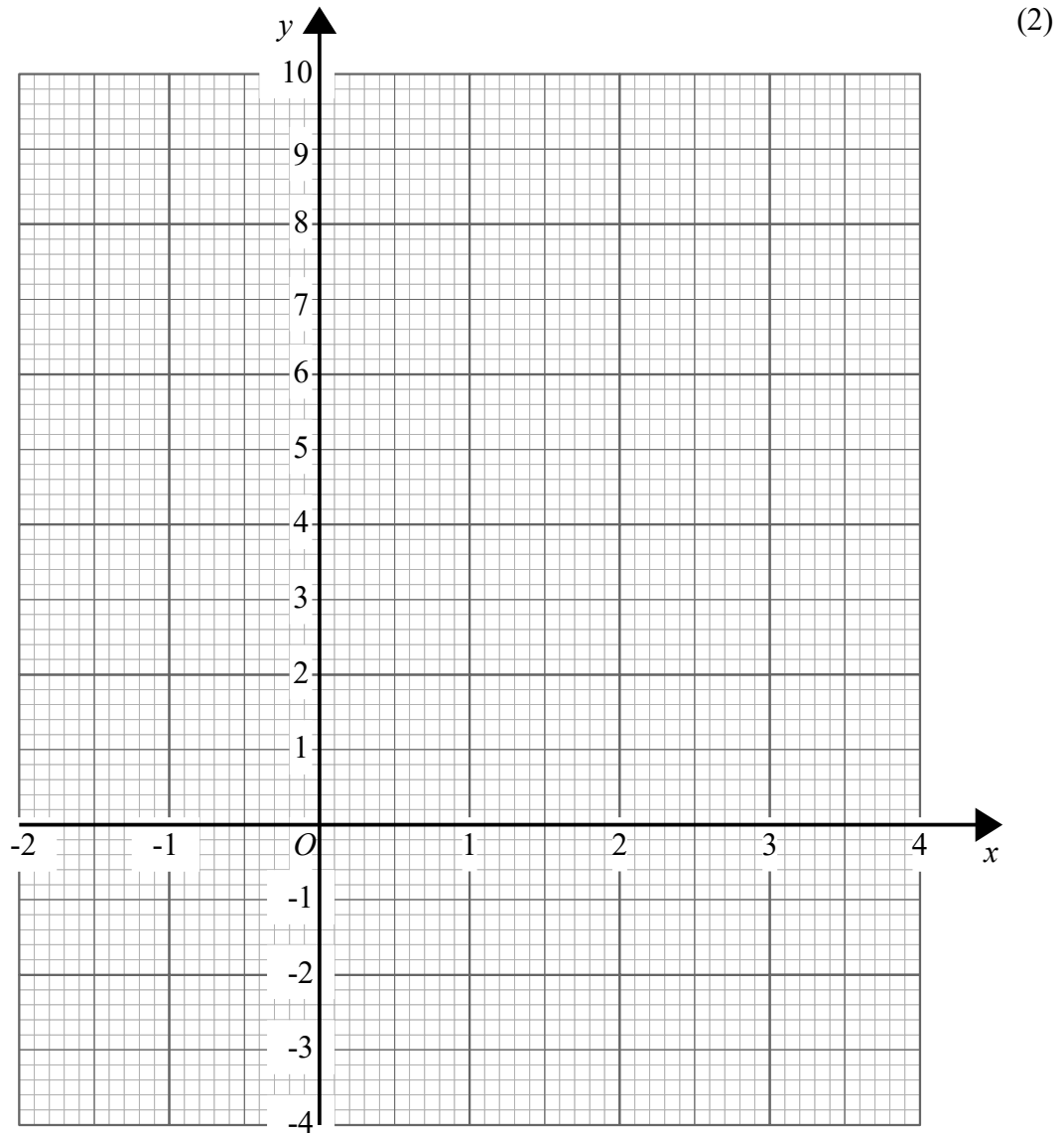
(a) On the grid draw the graph of $y = x^2 + x - 6$ for values of x from -3 to 3 (2)

(b) Use the graph to find estimates of the solutions to the equation $x^2 + x - 6 = -2$

.....
(2)
(Total for question 4 is 6 marks)

5 Complete the table of values for $y = x^2 - 3x - 1$

| | | | | | | | |
|-----|----|----|---|---|---|---|---|
| x | -2 | -1 | 0 | 1 | 2 | 3 | 4 |
| y | | | | | | | |



(a) On the grid draw the graph of $y = x^2 - 3x - 1$ for values of x from -2 to 4 (2)

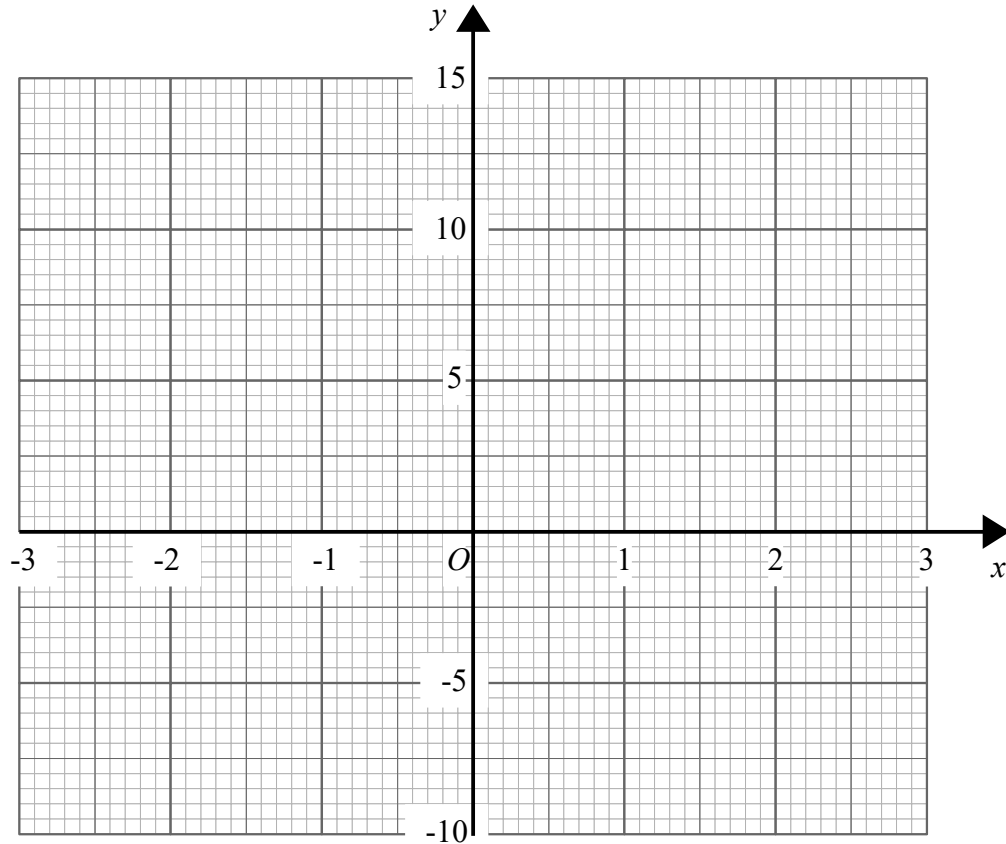
(b) Use the graph to find an estimate of the turning point of the graph $y = x^2 - 3x - 1$

.....
(2)
(Total for question 5 is 6 marks)

6 Complete the table of values for $y = x^2 - 2x - 5$

| | | | | | | | |
|-----|----|----|----|---|---|---|---|
| x | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
| y | | | | | | | |

(2)



(a) On the grid draw the graph of $y = x^2 - 2x - 5$ for values of x from -3 to 3 (2)

(b) Use the graph to find an estimate of a solution to the equation $x^2 = 2x + 5$

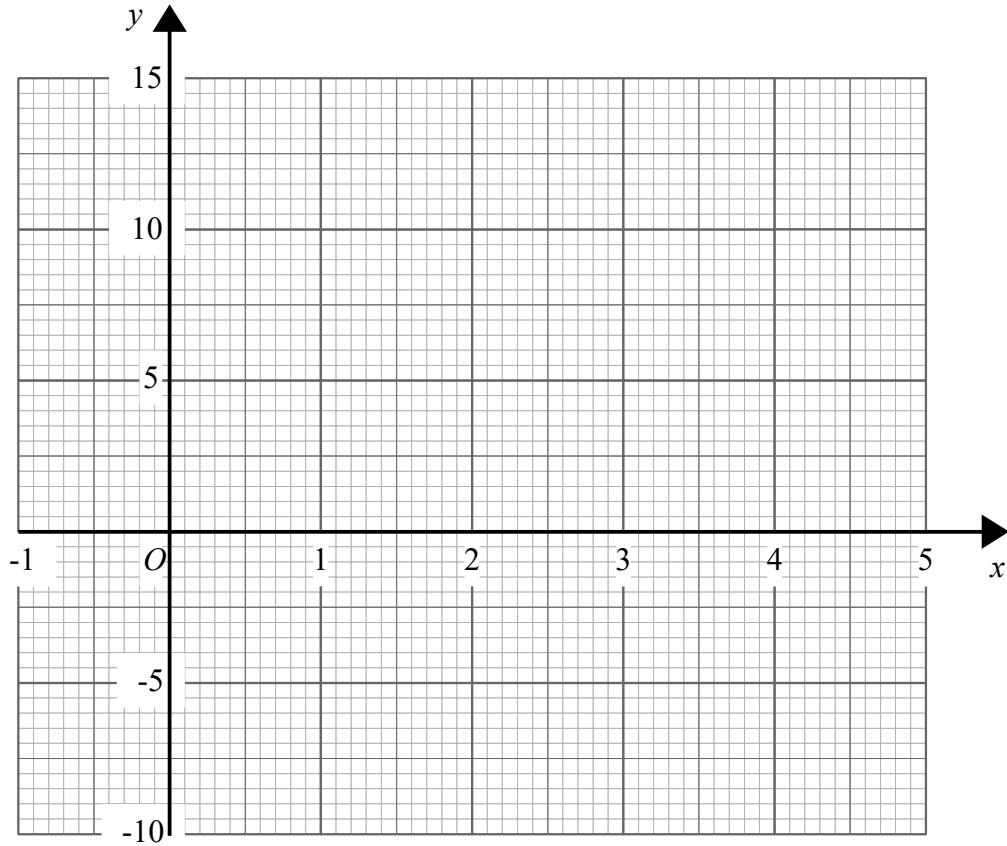
.....
(1)

(Total for question 6 is 5 marks)

7 Complete the table of values for $y = 7x - x^2$

| | | | | | | | |
|-----|----|---|---|---|---|---|---|
| x | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
| y | | | | | | | |

(2)



(a) On the grid draw the graph of $y = 7x - x^2$ for values of x from -1 to 5 (2)

(b) Use the graph to find an estimate of the turning point of the graph $y = 7x - x^2$

.....

(c) Find the solutions to the equation $7x - x^2 = 0$ (2)

.....

(2)
(Total for question 7 is 8 marks)