Solutions by
Kenneth Stafford
MATHS TUTOR
ken@kennethstafford.co.uk

GCSE (9-1) Grade 5

Drawing Quadratic Graphs

Unfinished. Please support to inspire me on.

Instructions

Use **black** ink or ball-point pen.
Fill in the boxes at the top of this page with your name.
Answer **all** questions.
Answer the questions in the spaces provided
- there may be more space than you need.

Show all your working out

Information

The marks for **each** question are shown in brackets.
use this as a guide as to how much time to spend on each question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed

Advice

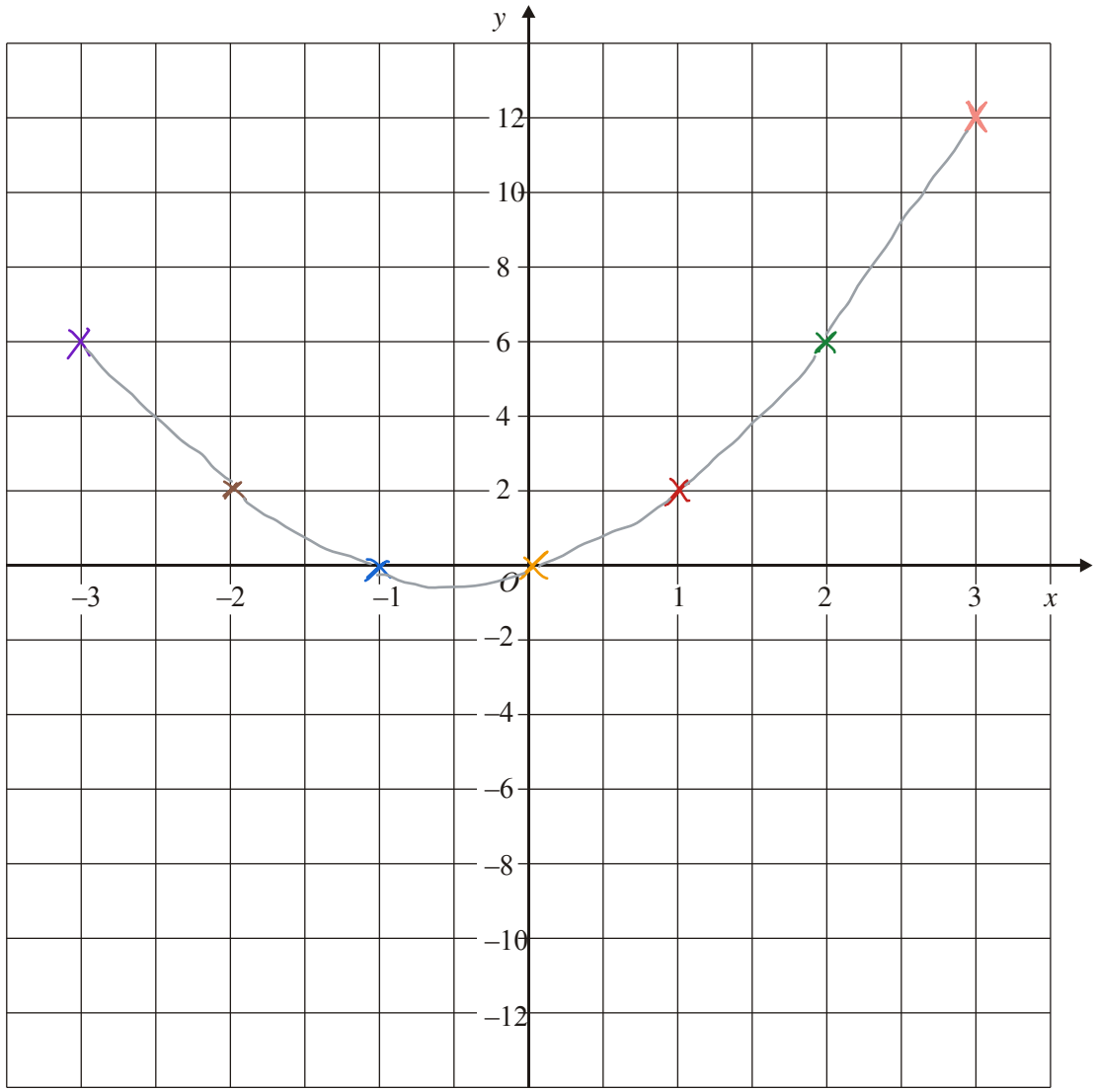
Read each question carefully before you start to answer it
Attempt every question
Check your answers if you have time at the end

1. (a) Complete the table of values for $y = x^2 + x$.

x	−3	−2	−1	0	1	2	3
y	6	2	0	0	2	6	

(2)

(b) On the grid, draw the graph of $y = x^2 + x$.



(2)

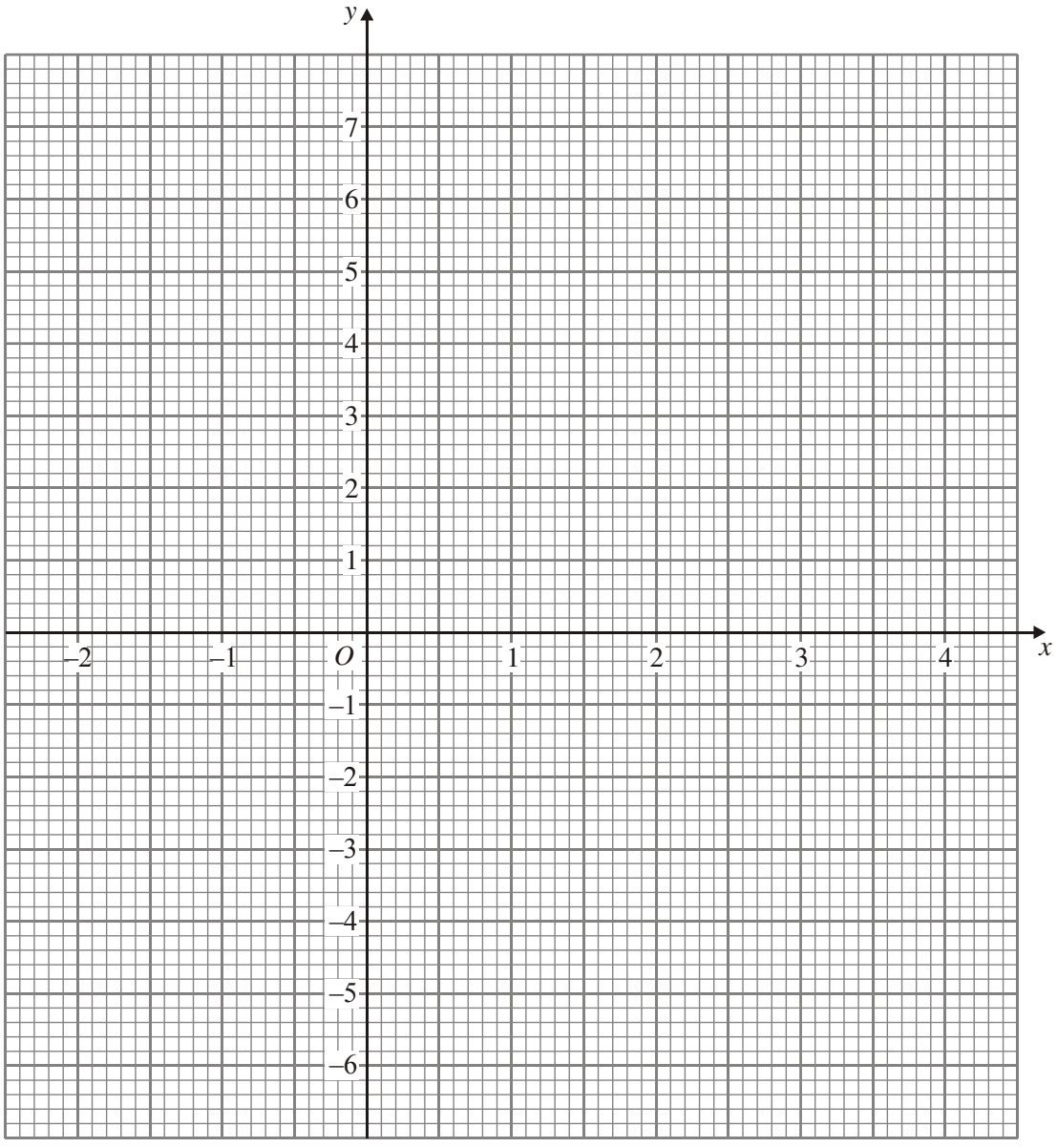
(Total 4 marks)

2. (a) Complete the table for $y = x^2 - 2x - 4$

x	–2	–1	0	1	2	3	4
y	4		–4	–5		–1	

(2)

(b) On the grid, draw the graph of $y = x^2 - 2x - 4$



(2)
(Total 4 marks)

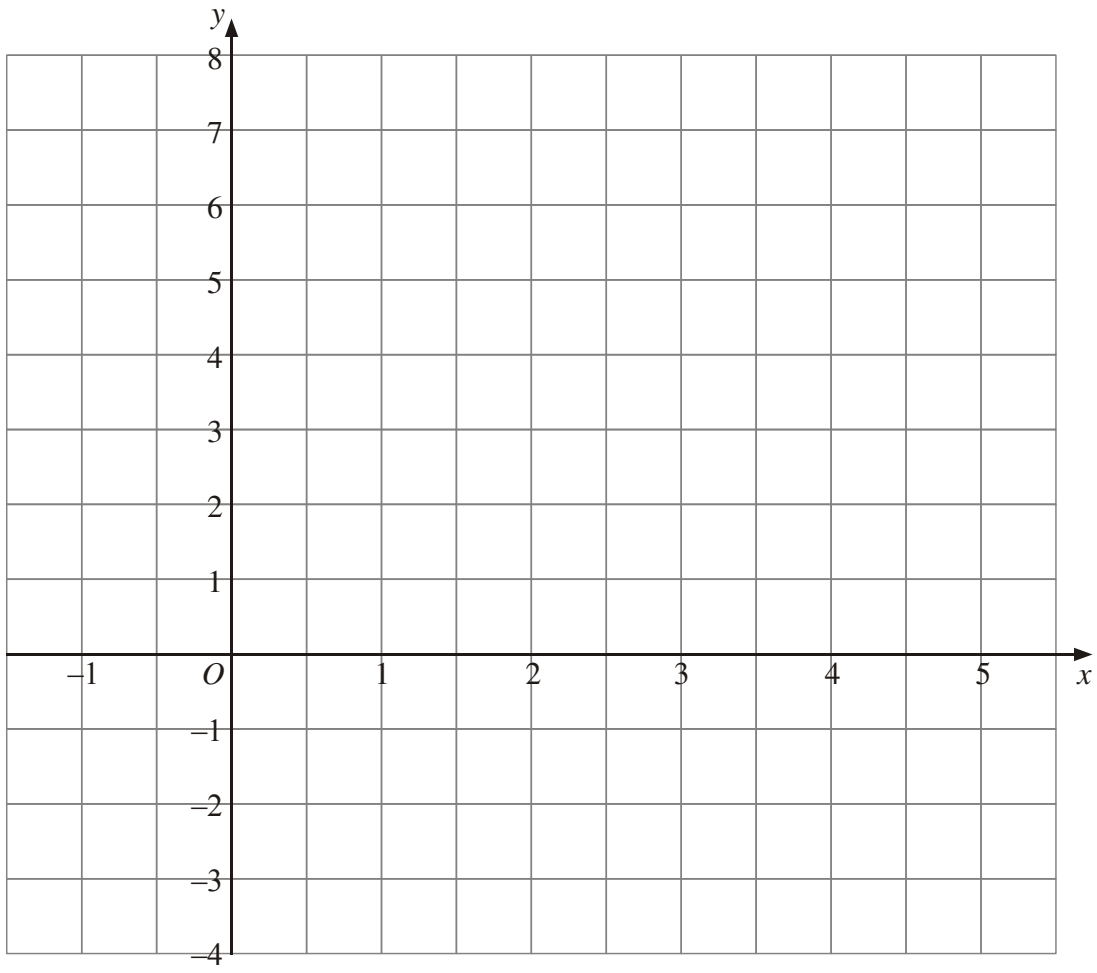
www.naikermaths.com

3. (a) Complete the table of values for $y = x^2 - 4x + 2$

x	–1	0	1	2	3	4	5
y		2	–1		–1		7

(2)

(b) On the grid, draw the graph of $y = x^2 - 4x + 2$



(2)
(Total 4 marks)

www.naikermaths.com

4. (a) Complete the table of values for $y = x^2 - 3x - 1$.

x	−2	−1	0	1	2	3	4
y		3	−1	−3			3

(2)

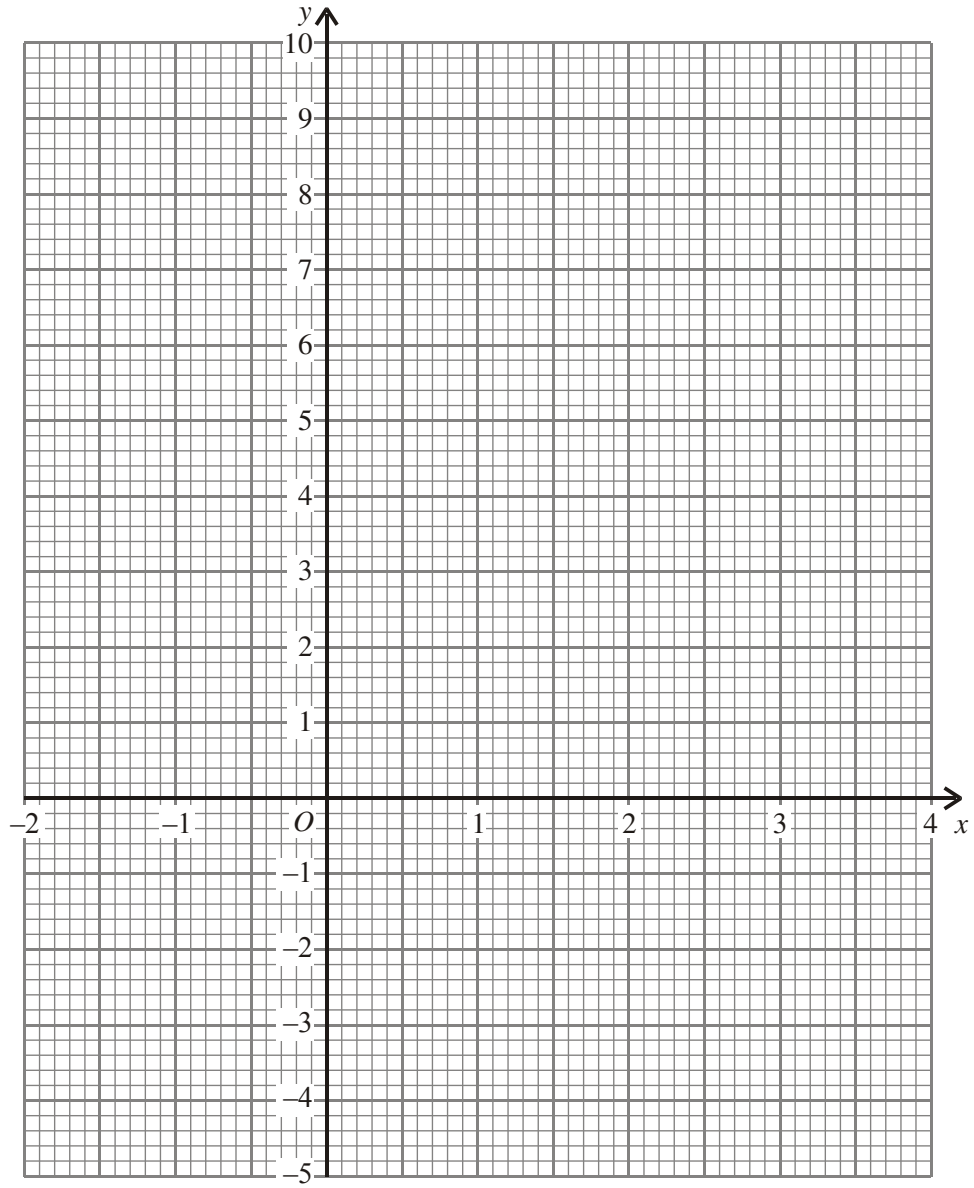
(b) On the grid below, draw the graph of $y = x^2 - 3x - 1$.

(2)

(c) Use your graph to find an estimate for the minimum value of y.

.....

(1)



(Total 5 marks)

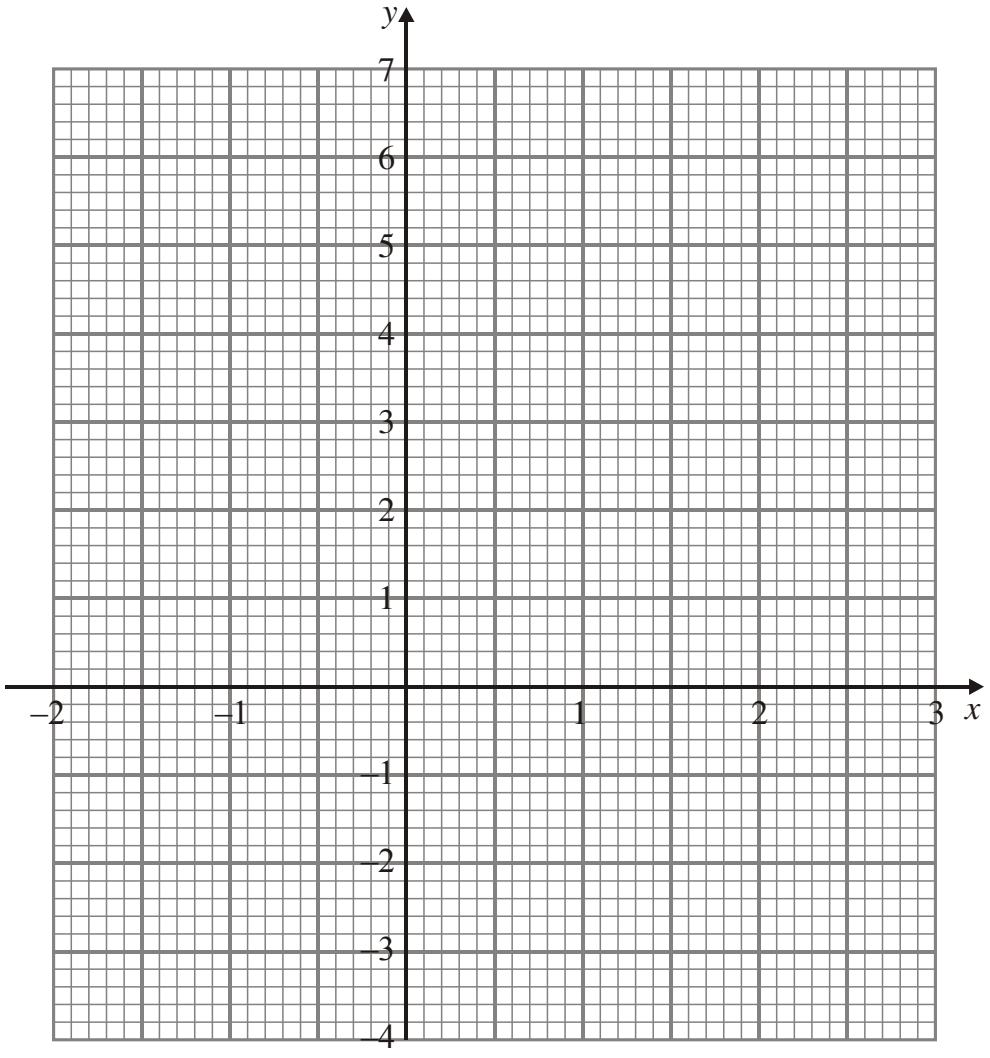
www.naikermaths.com

5. (a) Complete the table of values for $y = x^2 - 3$

x	–2	–1	0	1	2	3
y	1		–3	–2		

(2)

(b) On the grid, draw the graph of $y = x^2 - 3$



(2)
(Total 4 marks)

www.naikermaths.com

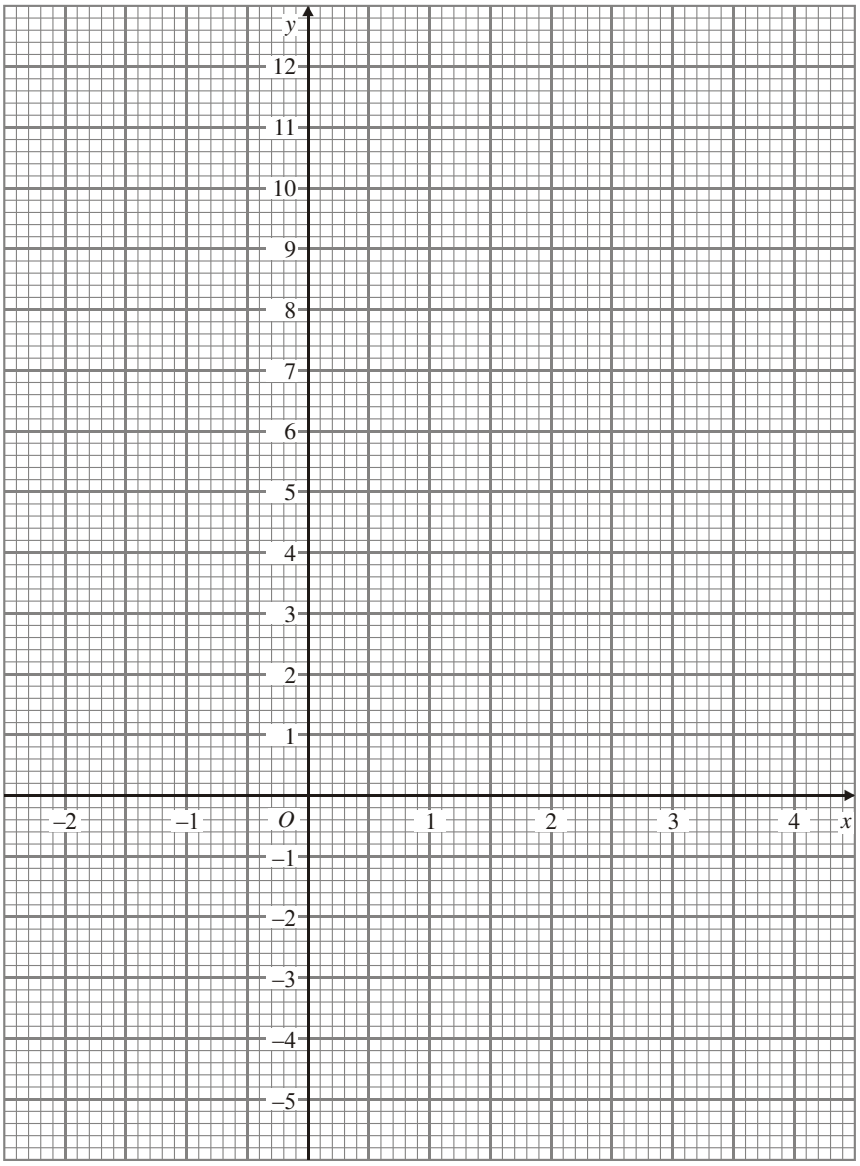
6. (a) Complete the table for $y = x^2 - 3x + 1$

x	–2	–1	0	1	2	3	4
y	11		1	–1		1	5

(2)

(b) On the grid below, draw the graph of $y = x^2 - 3x + 1$

(2)



(c) Use your graph to find an estimate for the minimum value of y.

$y =$ ……

(1)

www.naikermaths.com

(Total 5 marks)

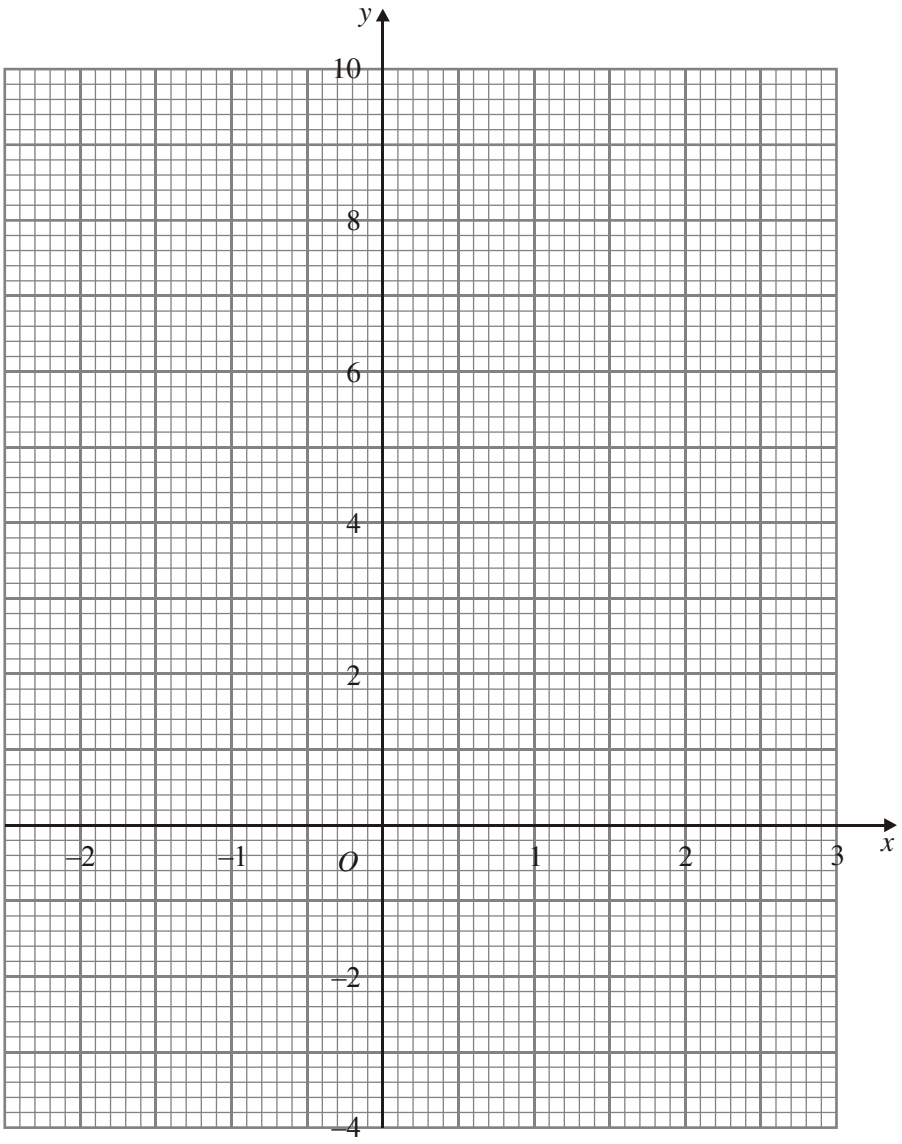
7. (a) Complete the table of values for $y = x^2 - 3x - 1$

x	–2	–1	0	1	2	3
y		3	–1	–3		

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x - 1$

(2)



(Total 4 marks)

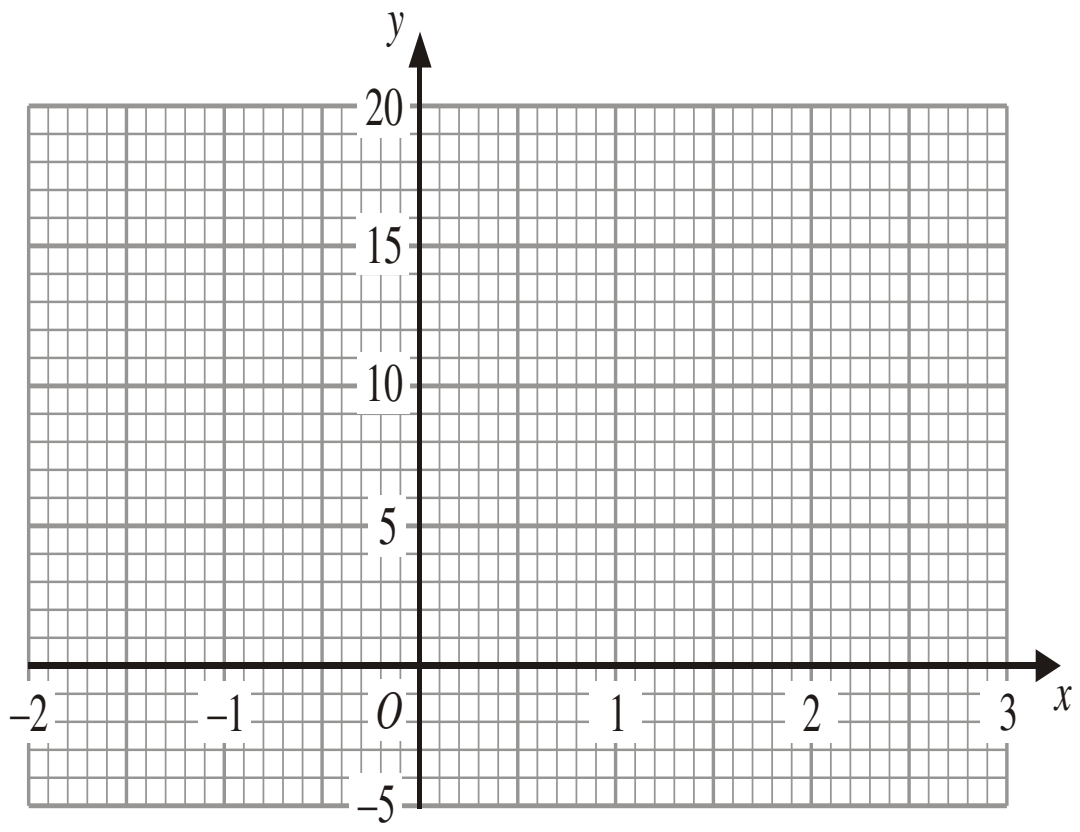
8. (a) Complete the table of values for $y = 2x^2 - 4x$

x	–2	–1	0	1	2	3
y	16		0			6

(2)

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

(2)



(c) (i) On the same axes, draw the straight line $y = 2.5$

(ii) Write down the values of x for which $2x^2 - 4x = 2.5$.

.....

(2)

(Total 6 marks)

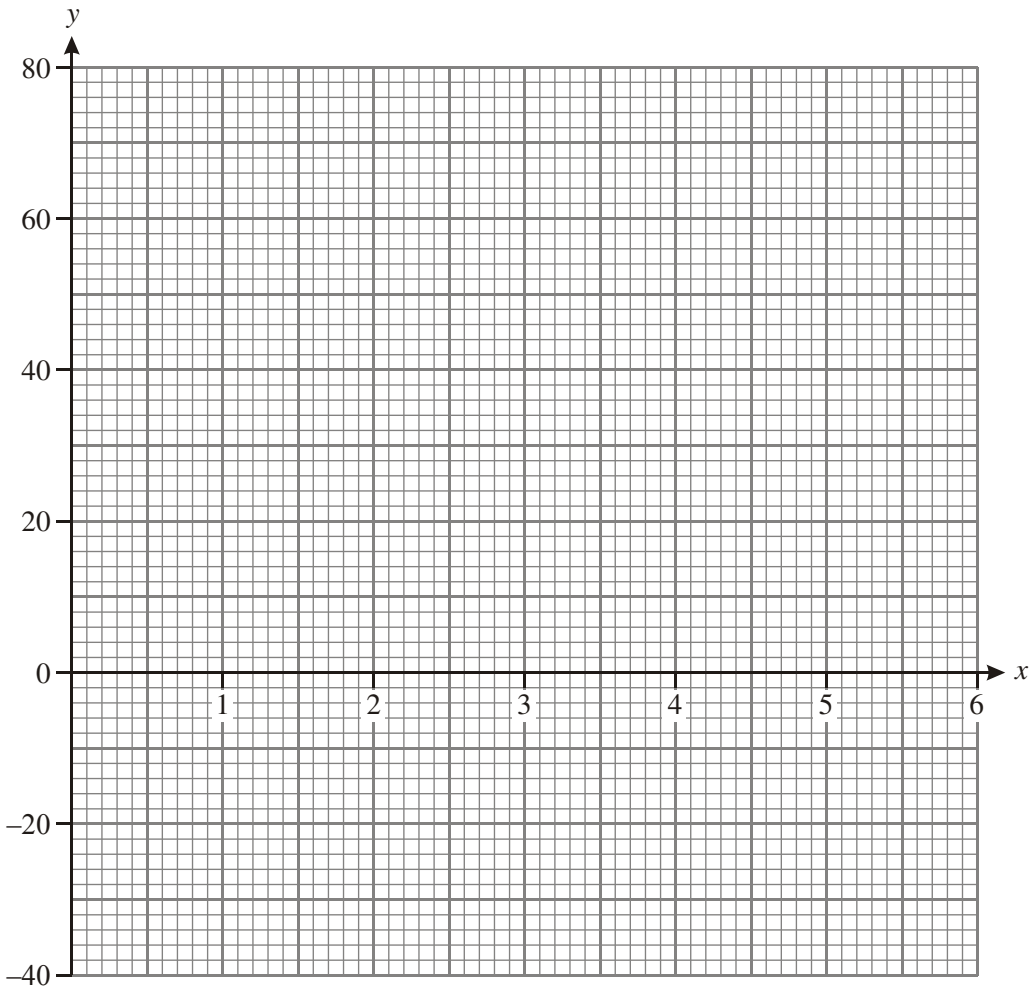
www.naikermaths.com

9. (a) Complete the table of values for the graph of $y = 4x(11 - 2x)$

x	0	1	2	3	4	5	6
y	0			60			–24

(2)

(b) On the grid, draw the graph of $y = 4x(11 - 2x)$



(2)

(c) Use your graph to find the maximum value of y.

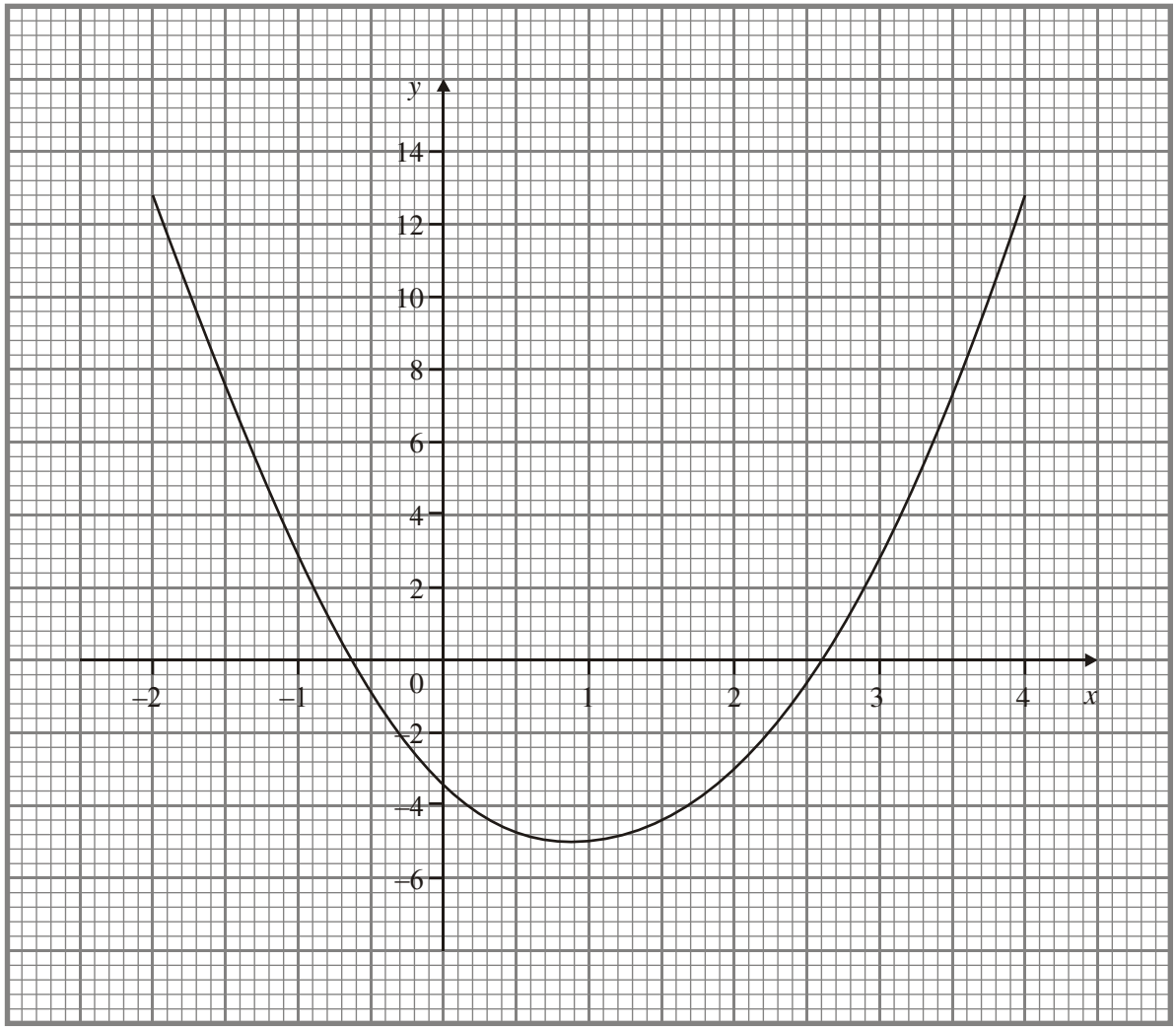
……..

(1)

(Total 5 marks)

www.naikermaths.com

10.



The diagram shows the graph of the equation $y = 2x^2 - 4x - 3$

Use the graph to find the approximate values of x when $2x^2 - 4x - 3 = 0$

x = ... or x = ...

(Total 2 marks)

www.naikermaths.com