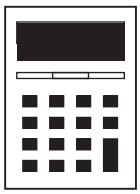
GCSE MATHEMATICS

Plotting Cubic Graphs



AQA These questions have been taken or modified from previous AQA GCSE Mathematics Papers.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer **all** questions.
- You must answer the questions in the spaces provided.
- If your calculator does not have a π button, take the value of π to be 3.14 unless another value is given in the question.

Information

- The marks for questions are shown in brackets.
- The quality of your written communication is specifically assessed in questions that are indicated with an asterisk (*).

Advice

- Read each question carefully before you start to answer it.
- In all calculations, show clearly how you work out your answer.
- Use the number of marks for the question as a guide to the amount of time you need to spend.
- Look at previous parts of the question, e.g. a), b), c) i) as there may be information there you need to answer later parts.
- Check your answer is realistic and appropriate.
- For calculator decimal numbers always write your full calculator display in the working out area and then, if you need to, round the answer on the answer line.

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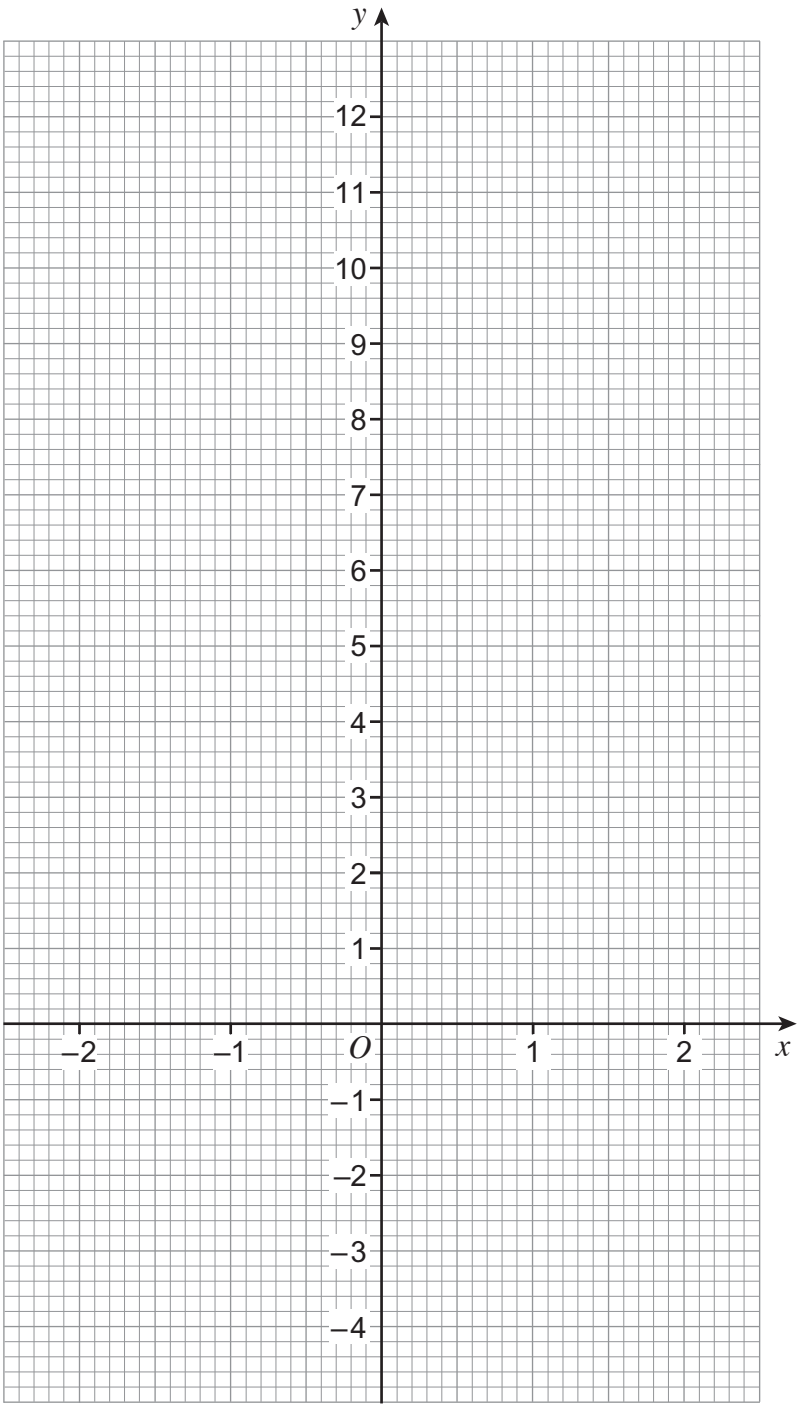
1 (a) Complete the table of values for $y = x^3 + 4$

x	– 2	– 1	0	1	2
y		3	4		12

[2 marks]

1 (b) On the grid below, plot the graph of $y = x^3 + 4$ for values of x from –2 to 2



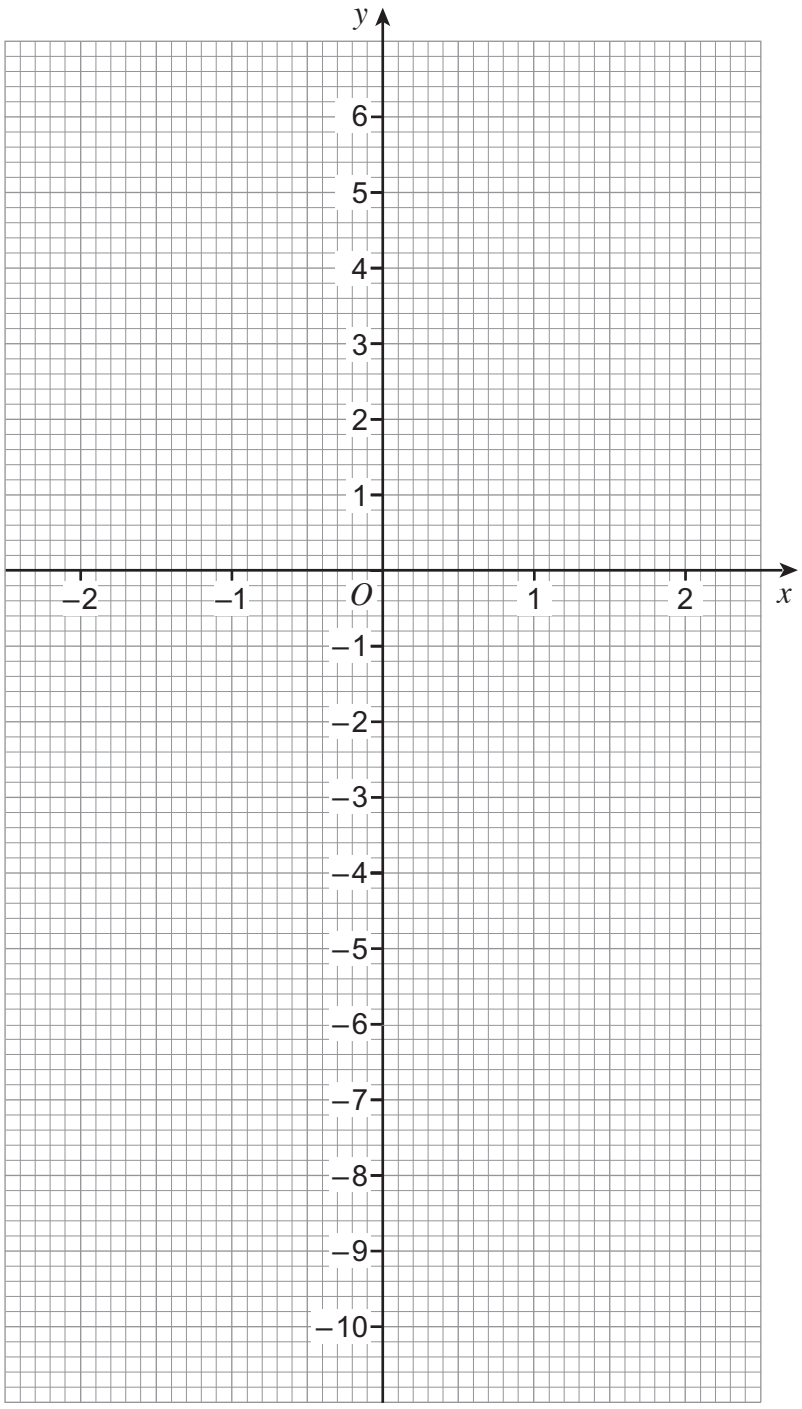
[2 marks]

2 Here is a table of values for $y = x^3 - 2$ for $x = -2$ to 2

x	– 2	– 1	0	1	2
y	– 10	– 3	– 2	– 1	6

Draw the graph of $y = x^3 - 2$ for values of x from – 2 to 2

[2 marks]



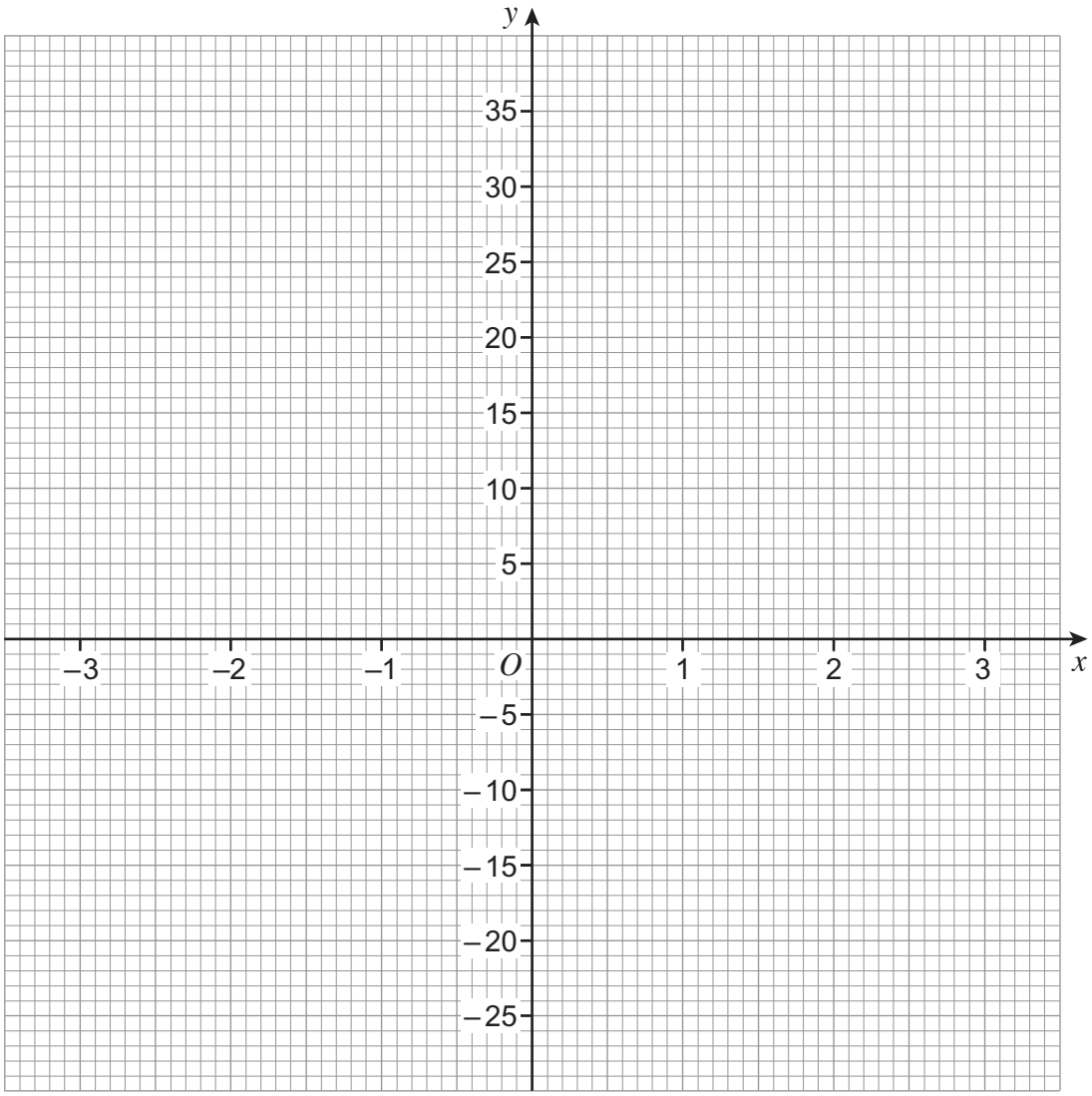
3 (a) Complete the table of values for $y = x^3 + 5$

x	-3	-2	-1	0	1	2	3
y	-22		4	5	6	13	

[2 marks]

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

[2 marks]



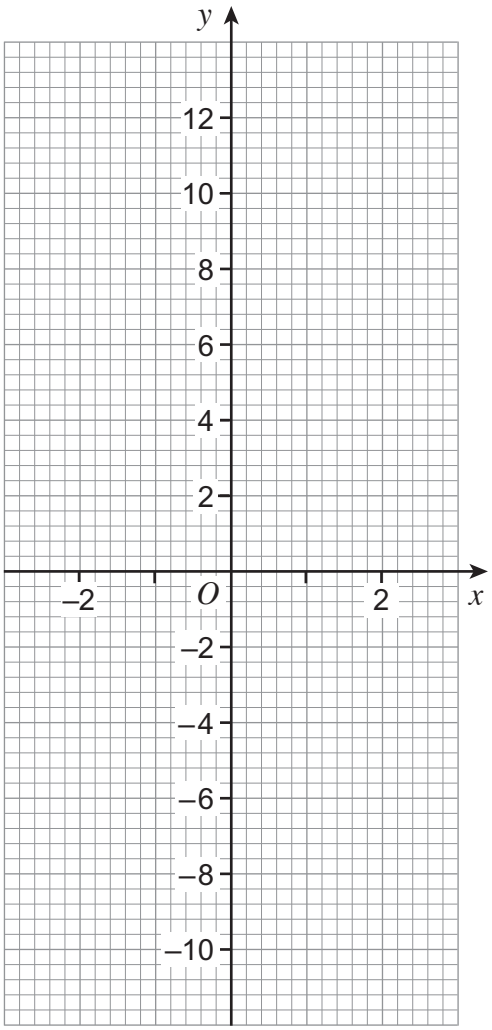
4 (a) Complete the table of values for $y = x^3 + x + 1$

[1 mark]

x	–2	–1	0	1	2
y	–9		1	3	11

4 (b) Draw the graph of $y = x^3 + x + 1$ for values of x from –2 to 2

[2 marks]



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

x	–2	–1	0	1	2
y	3		5	3	

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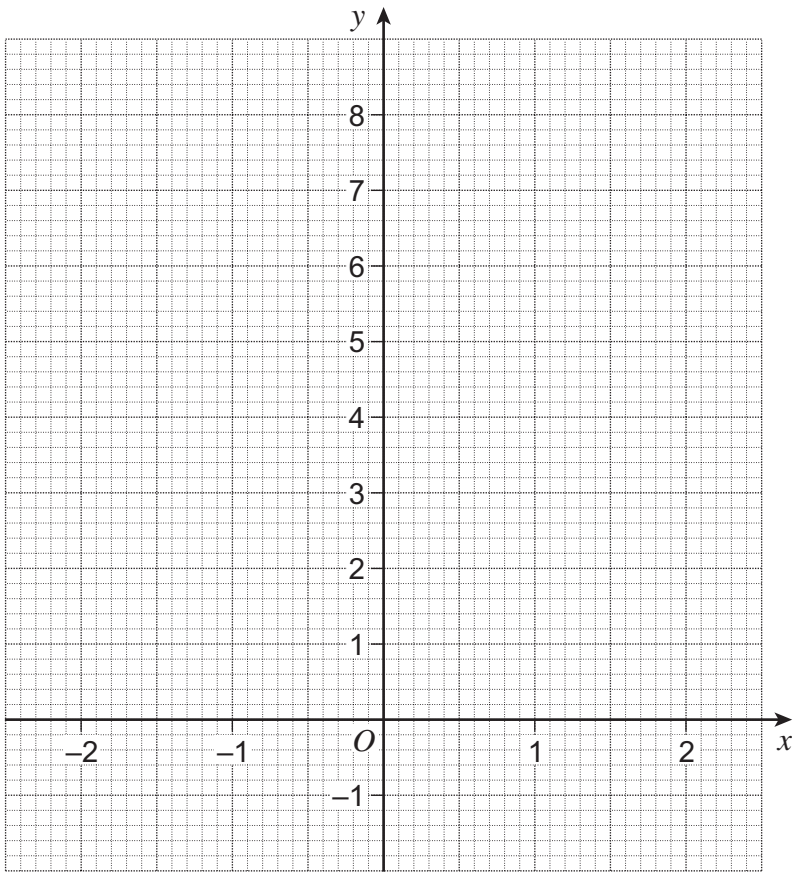
[2 marks]

5 (b) Draw the graph of $y = x^3 - 3x + 5$ for values of x from –2 to 2.



[2 marks]