

First Name	
Last Name	
Date	
Total Marks	/ 100 marks

**MathsMadeEasy**

**GCSE Mathematics**  
**Non Calculator**  
**Foundation Tier**  
**Mock 1, paper 1**  
1 hour 45 minutes



**Instructions**

Write your name and other details in the boxes above.  
Answer all the questions  
Take  $\pi$  to be 3.142

**Information**

Marks are shown in brackets for each question (2)  
**Calculators may not be used**

**Advice**

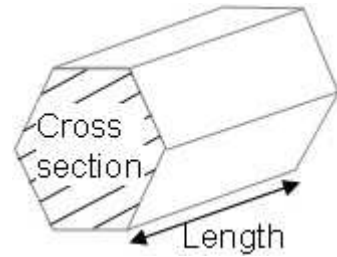
Don't spend too long on one question  
Show your working in calculations for full marks  
You will get marks for method even if your answer is incorrect  
Leave a question until later if you cannot answer it

**Materials needed for examination**

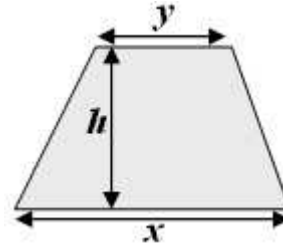
Ruler marked in centimetres and millimetres,  
protractor, compasses, pen, pencil, rubber  
Tracing paper may be used

## Formulae Sheet Foundation Tier

**Volume of prism** = area of cross section  $\times$  length



**Area of trapezium** =  $\frac{1}{2}(x + y)h$



### Authors Note

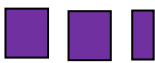
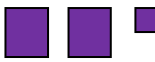

Every possible effort has been made to ensure that everything in this paper is accurate and the author cannot accept responsibility for any errors.


Apart from any fair dealing for the purposes of research or private study as permitted under the Copyright, Designs and Patents Act 1988, this paper may only be reproduced, stored or transmitted in any form or by any means with the prior permission in writing of the author, or in the case of reprographic reproduction in accordance with the terms and licence by the CLA. Enquiries concerning reproduction outside these terms should be sent to the author.

The right of David Weeks to be identified as the author of this work has been asserted by him in accordance with the Copyright, Designs and Patents Act 1988.



4. Look at the pictogram.  
It shows how many iphones were sold in a shop during some weekdays.

Monday	
Tuesday	
Wednesday	
Thursday	

Key  = 40 iphones sold

- a) How many iphones were sold on Tuesday

..... (1)

On Thursday 20 iphones were sold.

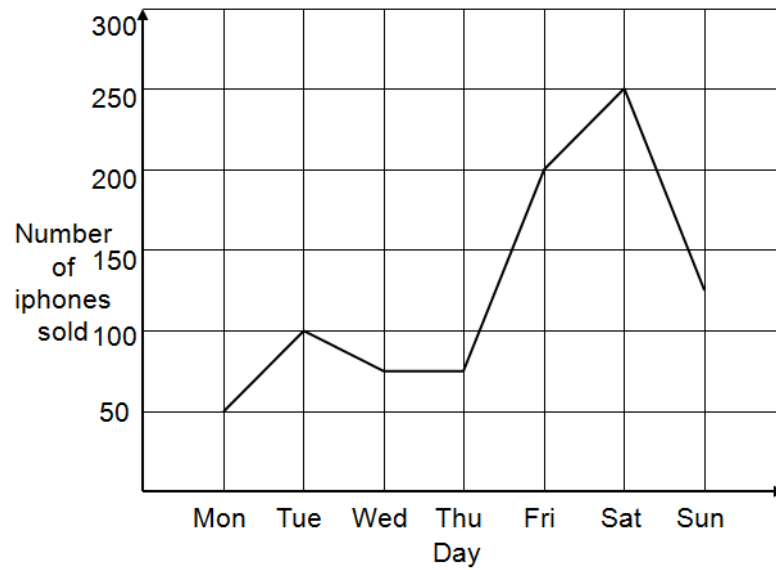
- b) Complete the histogram with this information

(1)

- c) How many iphones were sold in total on these four days

..... (2)

5. Look at the graph  
It shows how many iphones were sold in a big department store during the week.



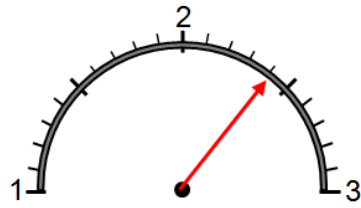
- a) On which days were the same number of iphones sold  
..... (1)
- b) What was the maximum number of iphones sold in one day  
..... iphones (1)
- c) What was the range of the number of iphones sold during the week.  
..... iphones (2)

6. Here are the first 5 terms of a number pattern:

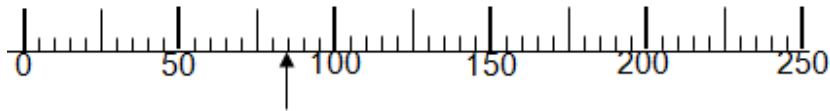
3      7      11      15      19

- a) What is the next term  
..... (1)
- b) What is the 8<sup>th</sup> term  
..... (1)

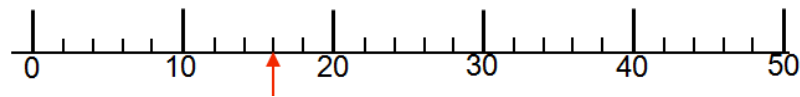
7. Read the value on each of these scales:



..... (1)

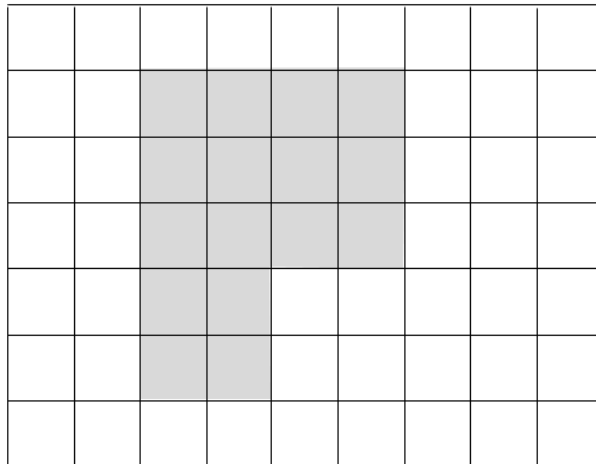


..... (1)



..... (1)

8. A shaded area is show below on a centimetre grid



a) Work out the fraction of this shape that is shaded.

..... (1)

b) Work out the area of the shape

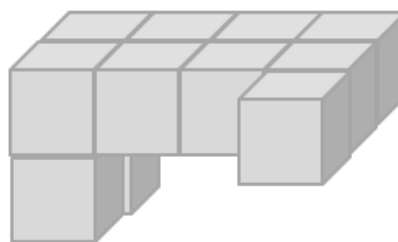
..... (1)

b) Work out the perimeter of the shape

..... (1)

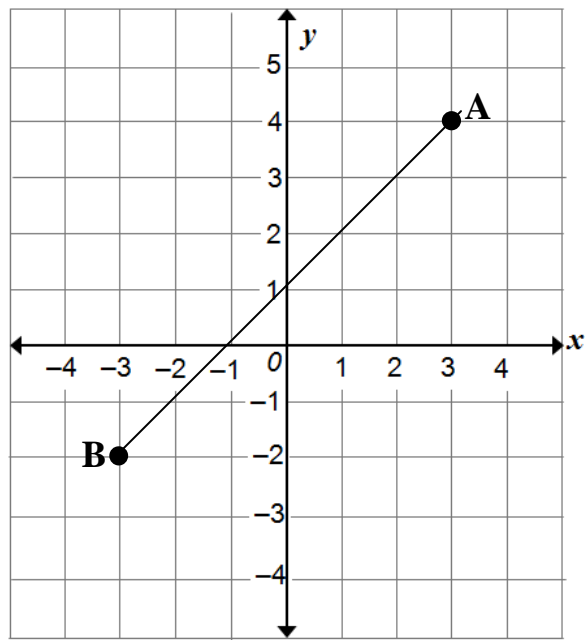
Look at this shape, made from centimetre cubes.

c) What is the volume of this shape



.....cm<sup>2</sup> (2)

9.



a) Write down the co-ordinates of point

i) A

(....., .....)

(1)

ii) B

(....., .....)

(1)

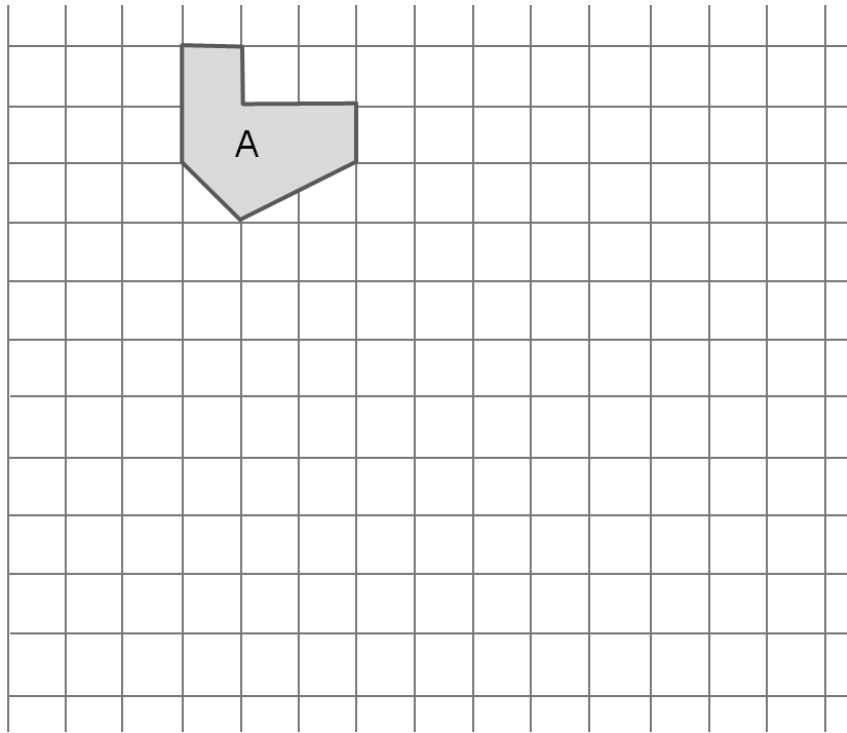
b) Write down the co-ordinates of midpoint of the line AB

(....., .....)

(1)

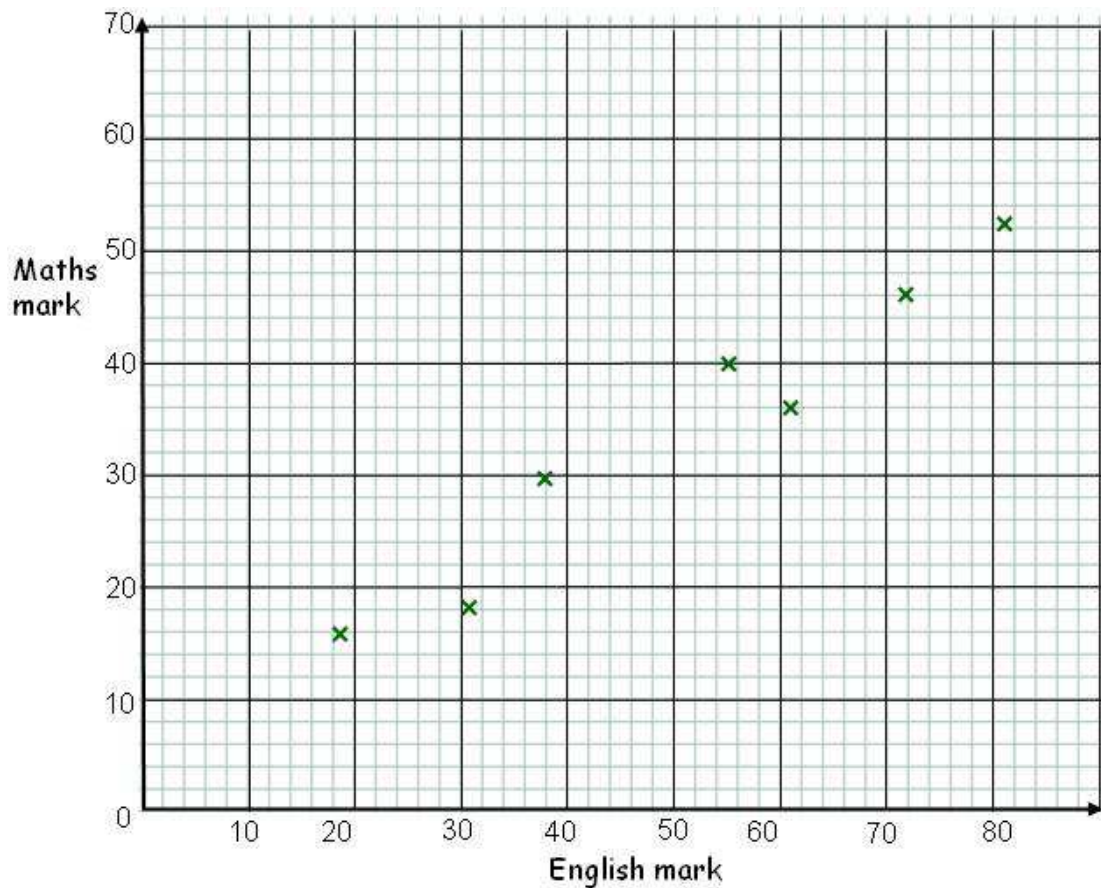


10. On the grid enlarge the shape A with a scale factor of 2



(2)

11. The exam marks for a Maths and English test for 7 students are shown in the scatter graph



- a) What was the **median** marks for maths?

..... (1)

The table shows the marks on Maths and English for two more students, A and B.

	Student A	Student B
Maths	28	54
English	46	76

- b) On the scatter graph, plot this extra information. (1)

- c) Draw a **line of best fit** on the scatter graph. (1)

Luke's English mark was 68.

- d) Using your line of best fit, estimate Luke's Maths mark (1)

12. a) Harry thinks of the number **15**

For each question below, tick ( ✓ ) Yes or No for Harry's number.

	Yes	No
Is it an <b>Odd</b> number?		
Is it a <b>multiple of 3</b> ?		
Is it a <b>factor of 30</b> ?		

(1)

b) Josephina thinks of a number **between 2 and 20**  
The table shows information about her number.

	Yes	No
Is it an <b>even</b> number?		✓
Is it a <b>multiple of 5</b> ?		✓
Is it a <b>prime number</b> ?		✓

What is her number?

.....

(2)

13. A coach travels from Grimsby to Lincoln.

It leaves Grimsby at 12.55 and arrives in Lincoln at 14.15

a) Work out how long the journey takes in *minutes*.

..... minutes (2)

There are 40 people on the coach at Grimsby

$\frac{1}{10}$  of these are children

b) What is  $\frac{1}{10}$  of 40

.....

$\frac{1}{5}$  th of these 40 people are men

The rest of the 40 people are women

c) How many women were on the coach

..... (3)

14.

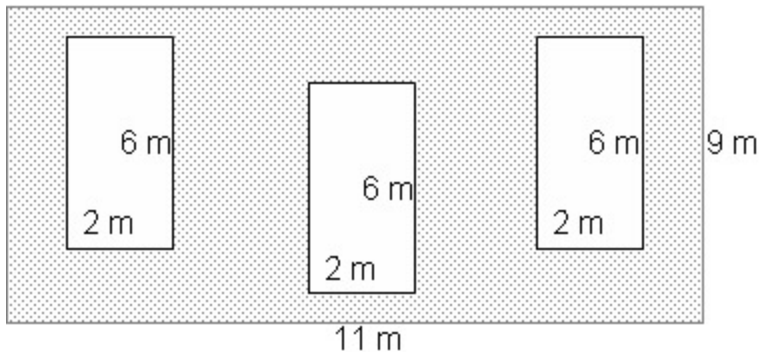


Diagram Not drawn accurately

The diagram above show three small rectangles inside a large rectangle.

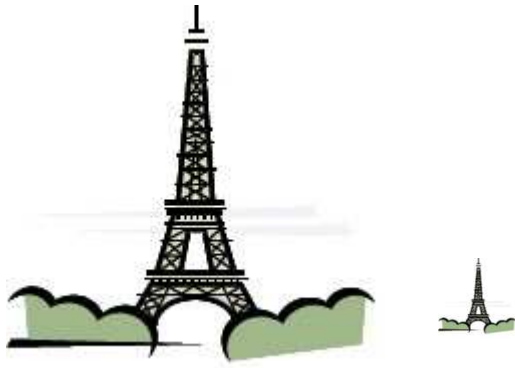
The large rectangle is 11m by 9m.

Each of the smaller triangles is 6m by 2m.

Work out the area of the grey shaded region

..... m<sup>2</sup> (3)

15.



Picture **NOT** drawn accurately

A model of the Eiffel tower is made to a scale of 0.5 centimetres to 1 metre.  
The height of the Eiffel tower is 324 metres.

a) Work out the height of the model. Give your answer in centimetres

.....cm (2)

The width of the model at the base is 62 centimetres

b) Work out the width of the Eiffel Tower. Give your answer in metres

.....m (2)

16. Use the information that  $347 \times 26 = 9022$  to find the value of

a)  $3.47 \times 26 =$

..... (1)

b)  $902.2 \div 3.47$

..... (1)

17. Work out  $\frac{3}{5} + \frac{2}{3}$

.....

(2)

18.

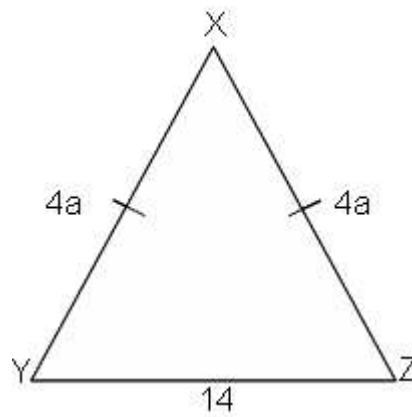


Diagram NOT drawn accurately

In the diagram, above shows an isosceles triangle XYZ with measurements in centimetres.

$$XY = 4a$$

$$XZ = 4a$$

$$YZ = 14$$

a) Find an expression in terms of  $a$ , for the *Perimeter* of the triangle in its simplest form

.....

(2)

The perimeter of the triangle is 54 cm

b) Find the value of  $a$

.....

(2)

19. Henry stopped at the half-way cafe for lunch with his sister Poppy.

They ordered one tea, one coffee, one ham and chips, one baked potato, one apple pie and one ice-cream.

The *half way Cafe* had a special offer : Orders over £10, get 10% off.

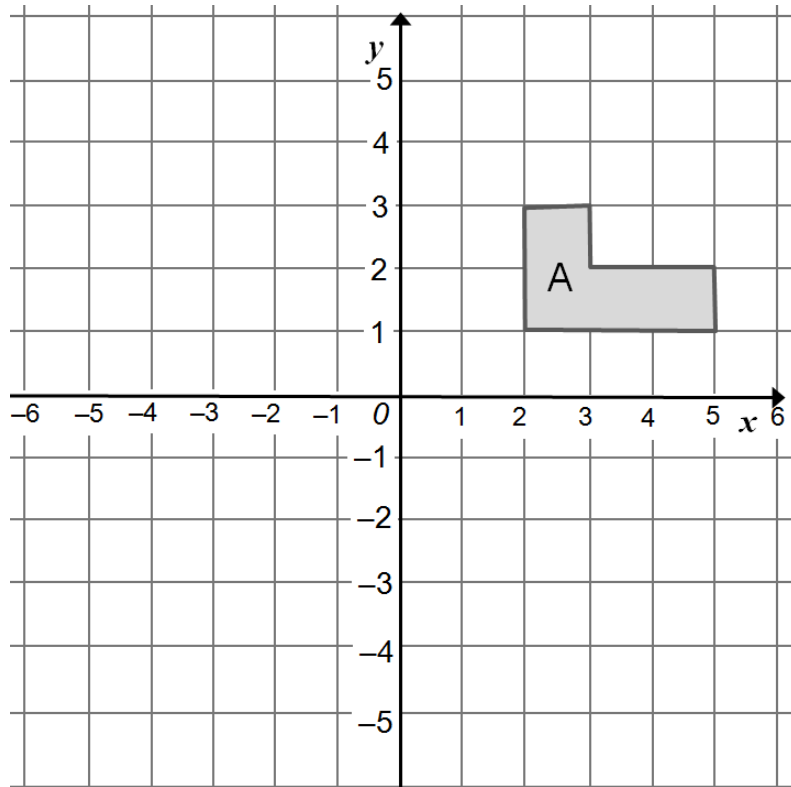
<i>Half-Way Cafe</i>			
Tea .....	£0.85	Juice...£0.50	
Coffee .....	£1.10		
Cappuccino .....	£1.20		
<b>MAINS</b>		<b>PUDDINGS</b>	
Bacon and eggs..	£3.18	Ice-cream...£1.50	
Baked potato .....	£2.95	Apple Pie...£1.45	
Ham and Chips ..	£3.05	Trifle .....	£1.65

How much did they pay?

£.....

(3)

20. On the grid below rotate the shaded shape A by  $90^\circ$  clockwise about the origin 0. Label the new shape B



(3)

21. The table below show several rows of a number pattern

Row 1	$1^2 - 0^2 = 1 = 1 + 0$
Row 2	$2^2 - 1^2 = 3 = 2 + 1$
Row 3	$3^2 - 2^2 = 5 = 3 + 2$
Row 4	$4^2 - 3^2 = 7 = 4 + 3$
Row 5	

- a) Complete row 5 of the number pattern
- b) Use the number pattern to find the answer to  $120^2 - 119^2$

(1)

.....

(2)



22. a) Simplify  $3x + 4y - x - 2y$

..... (2)

b) Simplify  $4y^2 - 3y^2$

..... (1)

c) Expand  $3(y^2 - 3y)$

..... (1)

d) Solve  $6z + 4 = 22$

$z =$ ..... (2)

e) Solve  $6a + 2 = 4a + 9$

$a =$ ..... (2)

f)  $A = 5b + 2c$   
if  $b = -3$   
and  $c = 6$   
Work out the value of A

$A =$ ..... (2)

23. Express 144 as a product of its prime factors by drawing a prime factor tree

..... (3)

24. David did a survey of the time in hours, people spent watching TV in a week. He recorded his results in the following table.

Time (t hours)	Frequency
$0 < t \leq 5$	10
$5 < t \leq 10$	13
$10 < t \leq 15$	16
$15 < t \leq 20$	12
$20 < t \leq 25$	9

a) Write down the Modal Class Interval

..... (1)

A person is selected at random from David's survey

b) Estimate the probability that the person selected spent longer than 15 hours watching TV

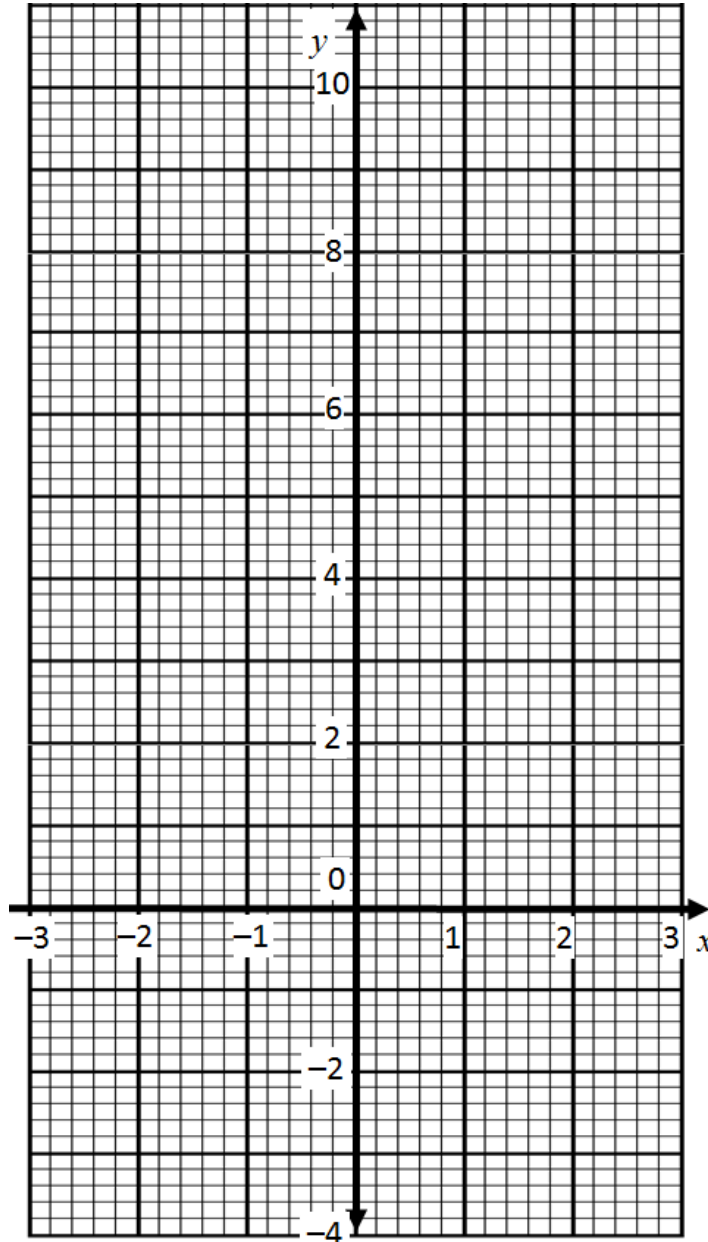
..... (2)

25. a) Complete the table of values for  $y = x^2 - x - 2$  below

$x$	-3	-2	-1	0	1	2	3
$y$	10		0		-2		4

(2)

b) Draw the graph for  $y = x^2 - x - 2$  on the grid below



(2)

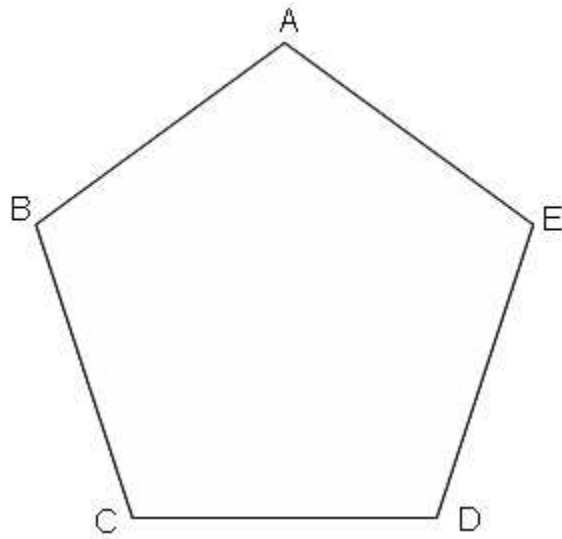
c) Use your graph to estimate the values of  $x$  when  $y = 2$

$x = \dots\dots\dots$

$x = \dots\dots\dots$

(2)

26.



ABCDE is a pentagon  
Shade the area inside the pentagon which is both  
more than 3 centimetres from A **and**  
more than 2 centimetres from the line DE

(4)

27. Laura wanted to know how much time students spent watching TV programs.

She used the question below on her questionnaire.

“How much TV did you watch this week?”

<input type="checkbox"/>	<input type="checkbox"/>
Not much	Quite a lot

a) What two things are wrong with this question

.....

.....

.....

(2)

b) Design a better question that Laura can use to find out how much time students spend watching TV programs. Include some response boxes.

(2)

28. Estimate the following:

$$\frac{809 \times 1.912}{0.395}$$

.....

(2)