Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
3	
4 – 5	
6 – 7	
8 – 9	
10 – 11	
12 – 13	
14 – 15	
16 – 17	
18 – 19	
20 – 21	
22 – 23	
24 – 25	
26 – 27	
28 – 29	
30	
TOTAL	

AQA

General Certificate of Secondary Education
Foundation Tier
June 2014

Mathematics (Linear) 4365/2F

Paper 2

F

Friday 13 June 2014 9.00 am to 10.45 am

For this paper you must have:
- a calculator
- mathematical instruments.

Time allowed
- 1 hour 45 minutes

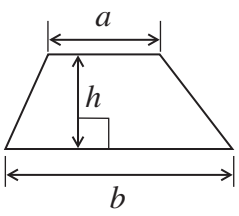
Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 105.
- The quality of your written communication is specifically assessed in Questions 7, 14, 20 and 24. These questions are indicated with an asterisk (*).
- You may ask for more answer paper, tracing paper and graph paper. These must be tagged securely to this answer book.

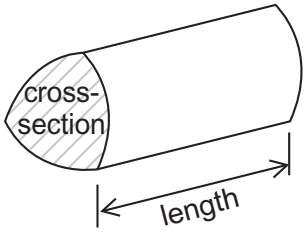
Advice
- In all calculations, show clearly how you work out your answer.

Formulae Sheet: Foundation Tier

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



Answer **all** questions in the spaces provided.

1 Here is a list of numbers.

255 431 293 388 107 205

1 (a) Which is the largest number?
Circle your answer.

[1 mark]

255 431 293 388 107 205

1 (b) Which is the even number?
Circle your answer.

[1 mark]

255 431 293 388 107 205

1 (c) Use two of the numbers to make a correct addition.

[1 mark]

..... + ... = 400

1 (d) Use two of the numbers to make a correct subtraction.

[1 mark]

..... – ..... = 50

4

2 A shop sells these 15 ice-creams.

Chocolate	Vanilla	Vanilla	Vanilla	Strawberry
Vanilla	Chocolate	Vanilla	Strawberry	Strawberry
Chocolate	Chocolate	Strawberry	Vanilla	Chocolate

2 (a) Complete the table.

[3 marks]

Flavour	**Tally**	**Frequency**
Chocolate		
Vanilla		
Strawberry		
		Total = 15

2 (b) The shop sells

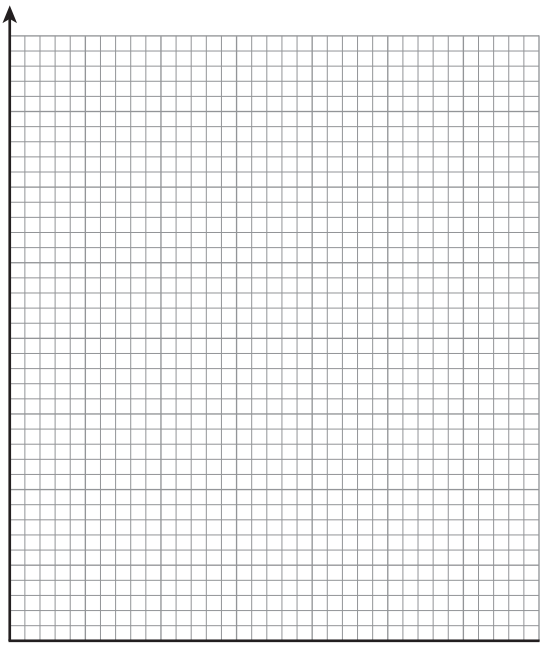
7 cones 5 tubs 3 wafers.

Show this information on a bar chart.

[4 marks]

Ice creams

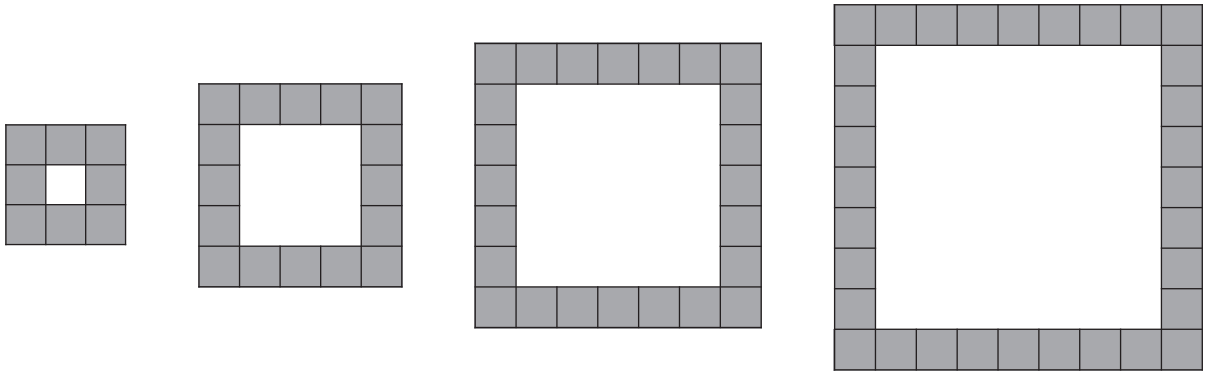
Number of ice creams



Turn over for the next question

7

3 Here is a sequence of patterns.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

3 (a) Complete the table.

[2 marks]

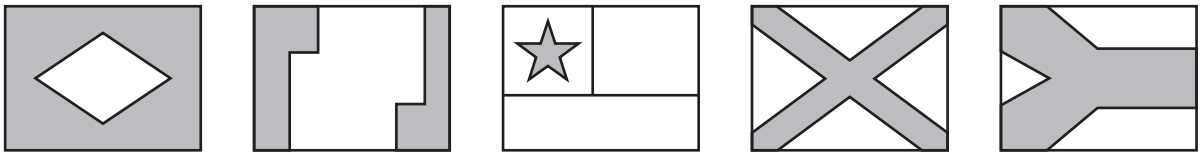
	Pattern 1	Pattern 2	Pattern 3	Pattern 4
Number of shaded squares	8			

3 (b) How many shaded squares are in Pattern 7?

[1 mark]

Answer .....

4 Here are five flags.



A *B* *C* *D* *E*

4 (a) Which **three** flags have line symmetry?

[2 marks]

Answer ..... , ... and .....

4 (b) Which **two** flags do **not** have rotational symmetry?

[2 marks]

Answer ..... and .....

4 (c) Which flag has rotational symmetry but **not** line symmetry?

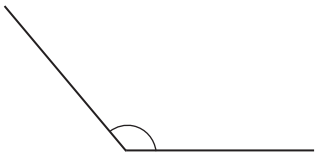
[1 mark]

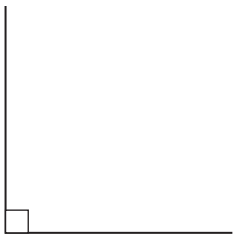
Answer .....

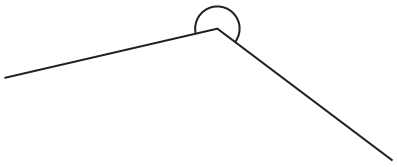
8

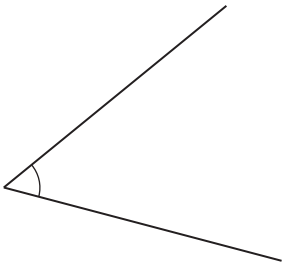
5 Draw a line to match each angle to the correct name.

[2 marks]









right angle

reflex angle

acute angle

obtuse angle

6 The table shows the cost of posting parcels.

Weight of parcel (grams)	First Class	Second Class
0 – 100	£1.58	£1.33
101 – 250	£1.96	£1.72
251 – 500	£2.48	£2.16
501 – 750	£3.05	£2.61
751 – 1000	£3.71	£3.15

6 (a) A parcel weighs 400 grams.

What is the cost of sending it First Class?

[1 mark]

Answer £ .....

6 (b) Jake wants to post a 600 gram parcel and an 800 gram parcel.
He posts them Second Class.
He pays with a £10 note.

How much change should he get?

[3 marks]

.....

.....

.....

.....

Answer £ .....

6

7

Football tickets

Adult	£58.90
Junior	£21.50
Over 65	£46.90

***7 (a)** How much does one Adult ticket and one Junior ticket cost altogether?

[2 marks]

.....

.....

Answer £ .....

7 (b) Jose buys some Over 65 tickets.
They cost £187.60

How many does he buy?

[2 marks]

.....

.....

Answer .....

Football tickets

Adult	£58.90
Junior	£21.50
Over 65	£46.90

7 (c) Kim buys **three** tickets.
They cost £89.90

What types of tickets does she buy?
You **must** show your working.

[2 marks]

.....

.....

.....

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.....

Answer .....

Turn over for the next question

6

8 Jade and Ben both have jobs.

Their pay in £ is worked out using this formula.

pay = 8 × number of hours worked + bonus

Their bonus is worked out using this table.

Whole number of hours worked	1 to 5	6 to 10	11 to 15	16 to 20
Bonus	£10	£20	£30	£40

8 (a) Jade worked 7 hours.

Work out her pay.

[3 marks]

.....

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Answer £ .....

8 (b) Ben is paid £150

How many hours did he work?

[3 marks]

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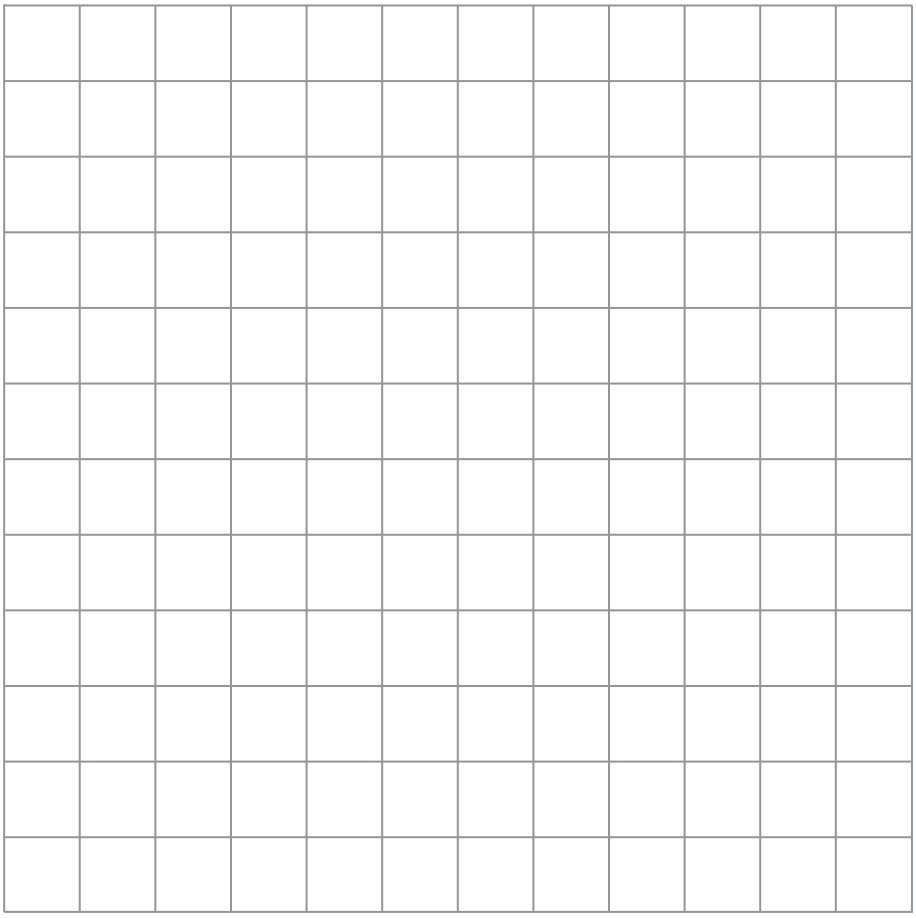
Answer ..... hours

9 On this centimetre grid, draw **one** rectangle with

Perimeter = 20 cm

and Area = 24 cm^2

[2 marks]



8

10 Here are the temperatures in four places at 7:00 am one morning.

Aberdeen	–15.8 ºC
London	–4.9 ºC
Sheffield	–7.6 ºC
Warwick	–5.3 ºC

10 (a) Which place was the warmest?

[1 mark]

Answer .....

10 (b) What was the difference in temperature between Aberdeen and Warwick?

[1 mark]

Answer ..... ºC

10 (c) At 4:00 pm the temperature in Sheffield was 1.7 ºC higher than at 7:00 am.

What was the temperature in Sheffield at 4:00 pm?

[1 mark]

Answer ..... ºC

11 Work out $\frac{3}{5}$ of 900

[2 marks]

.....

Answer .....

12 Use your calculator to work out

12 (a) $\sqrt{576}$

[1 mark]

Answer .....

12 (b) $2.3^2 + \sqrt{5}$

[1 mark]

Answer .....

12 (c) $\frac{1}{0.4^2}$

[1 mark]

Answer .....

13 Megan took two tests.
Here are her results.

Geography test	$\frac{13}{20}$
History test	$\frac{16}{25}$

In which test did Megan get the higher percentage mark?
You **must** show your working.

[2 marks]

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Answer .....

10

***14** The table shows the GCSE Mathematics results of the students in a school.

Grade	U	G	F	E	D	C	B	A	A*
Number of students	0	8	20	43	37	51	34	30	17

The school had a target that 60% of the students get grade C or higher.

Did the school meet its target?
You **must** show your working.

[5 marks]

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Answer .....

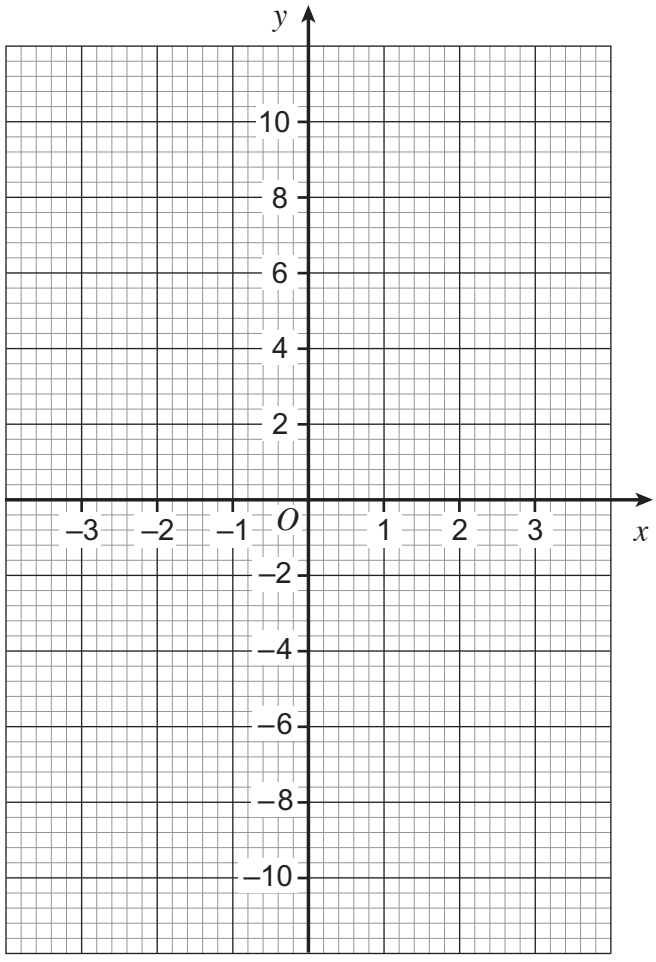
15 (a) Complete the table for $y = 3x - 1$

[2 marks]

x	–3	–2	–1	0	1	2	3
y	–10		–4	–1	2		8

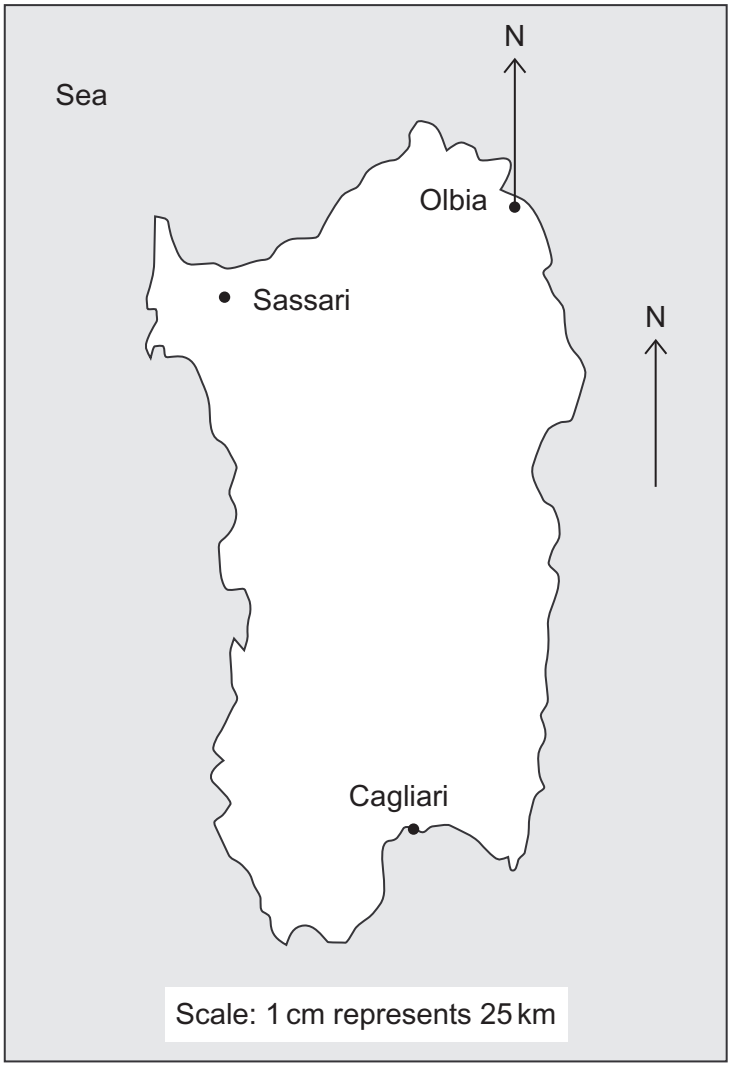
15 (b) On the grid draw the graph of $y = 3x - 1$ for values of x from –3 to 3

[2 marks]



9

16 Here is a map of Sardinia.



16 (a) Work out the **actual** distance between Cagliari and Sassari.

[3 marks]

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Answer ..... km

16 (b) Mario's favourite beach is on a bearing of 165º from Olbia.

Draw this bearing and mark with a cross the position of the beach.

[2 marks]

Turn over for the next question

5

17 50 cars arrive at a car park.
The table shows the number of people in each car.

Number of people	Number of cars
1	9
2	12
3	18
4	7
5	4

17 (a) One of the cars is chosen at random.

Work out the probability that there are **more than 3** people in the car.

[2 marks]

.....

.....

Answer .....

17 (b) Work out the total number of people in the 50 cars.

[2 marks]

.....

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.....

.....

Answer .....

18 (a) Simplify fully $3a + 4b + a - 2b$

[2 marks]

.....

Answer .....

18 (b) Solve $4x - 7 = 11$

[2 marks]

.....

.....

x = ...

Turn over for the next question

8

19 Here is a list of what you need to make 20 buns.

180 g	butter
150 g	flour
200 g	sugar
4	eggs

Work out what you need to make 30 buns.

[3 marks]

.....

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.....

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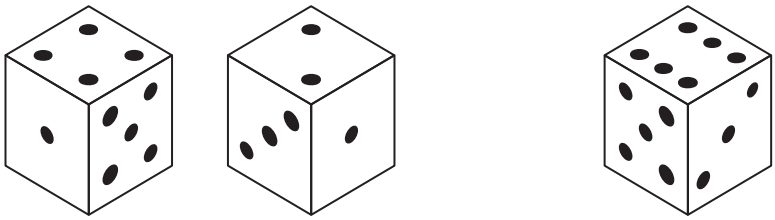
..... g butter

..... g flour

..... g sugar

..... eggs

***20** Here are two games that can be played with ordinary six-sided fair dice.



Game A	**Game B**
Roll two dice Add the numbers The total is your score	Roll one dice The number you get is your score

Which game gives a higher chance of scoring **6**?
You **must** show your working.

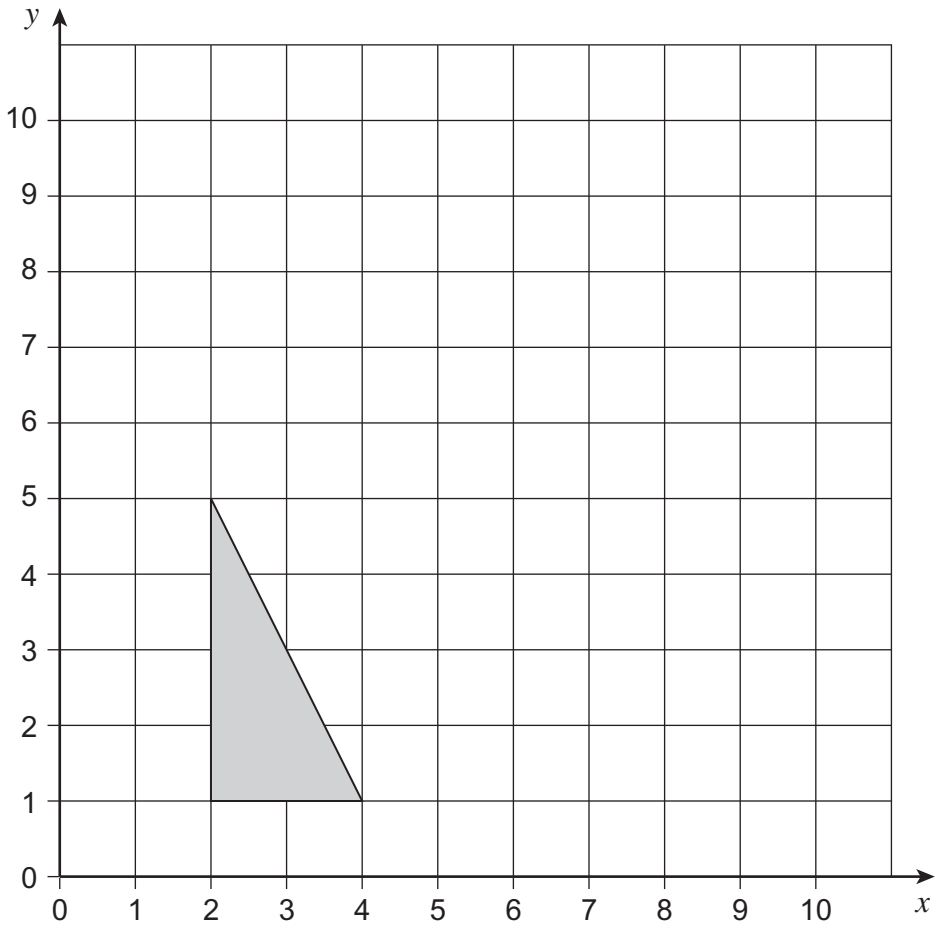
[5 marks]

Answer .....

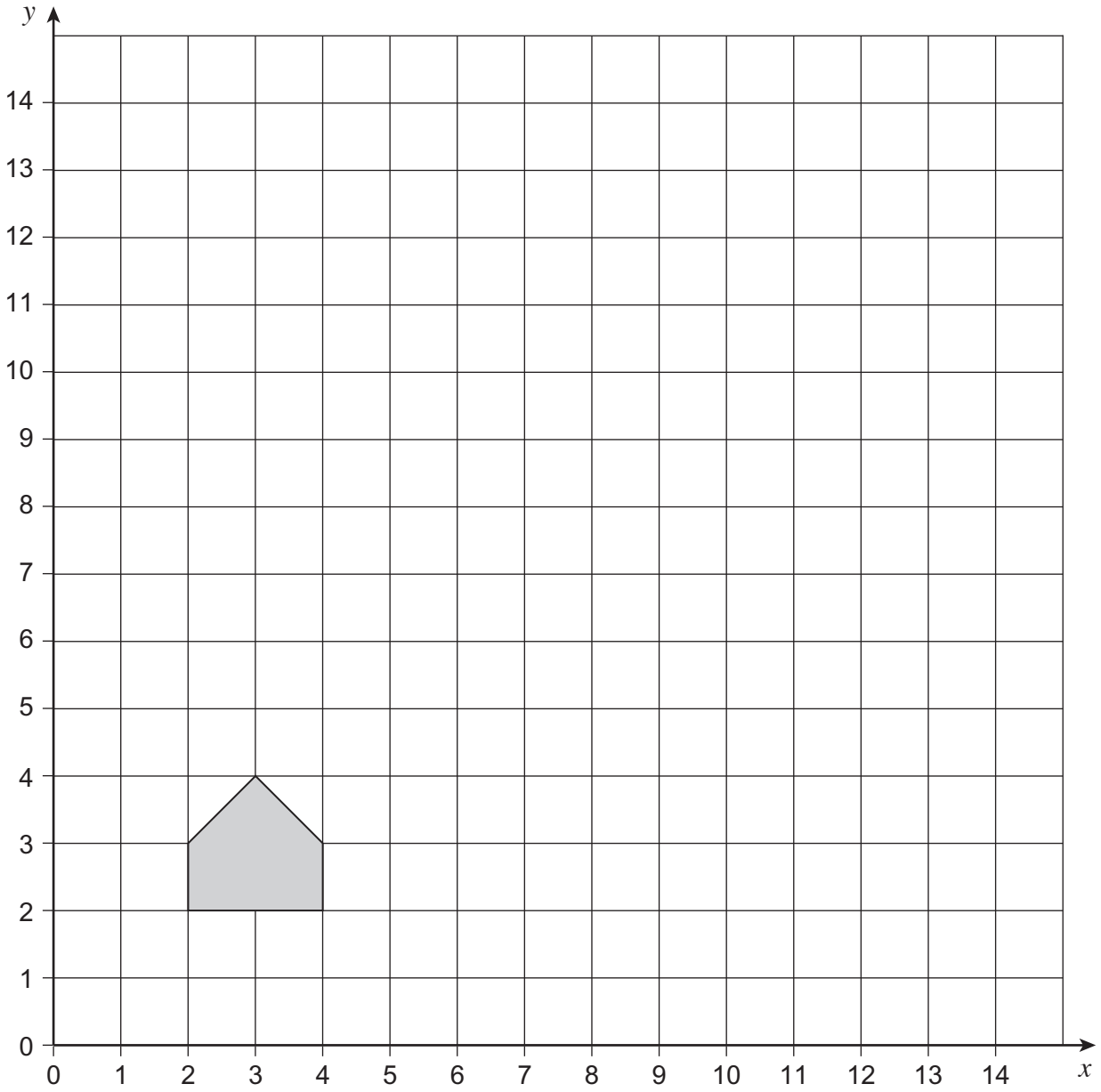
8

21 (a) Reflect the triangle in the line $y = 5$

[2 marks]



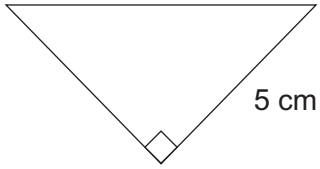
21 (b) Enlarge the shape by scale factor 4, centre of enlargement (1, 1).



[3 marks]

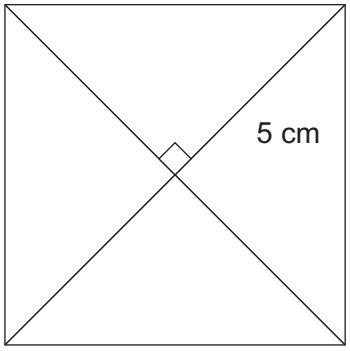
5

22 Here is a right-angled triangle.



Not drawn accurately

Four of these triangles are joined to make a square as shown.



Not drawn accurately

Work out the area of the square.

[3 marks]

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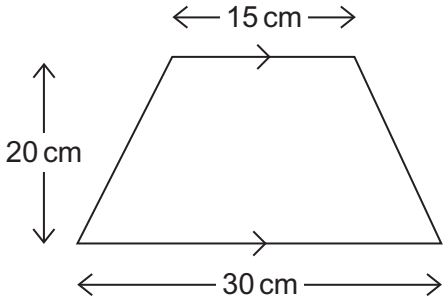
Answer ..... cm^2

23 The diagram shows a trapezium.



Not drawn accurately

23 (a) Work out the area of the trapezium.

[2 marks]

.....

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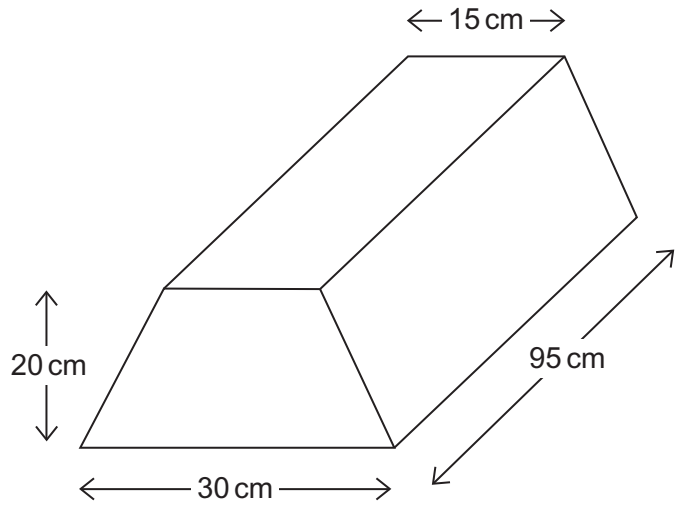
Answer ..... cm^2

23 (b) The trapezium is the cross-section of this prism.



Work out the volume of the prism.

[2 marks]

.....

.....

Answer ..... cm^3

7

***24** Jack sees the bicycle he wants to buy in two shops.

Bye-cycles

Price without VAT £130

VAT is 20%

Just Bykes

Normal price £195

Now $\frac{1}{4}$ off

VAT is included

In which shop is the bicycle cheaper?
You **must** show your working.

[5 marks]

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Answer .....

25 These expressions represent four numbers.
The value of the median of the expressions is 12.

x $2x$ $6x$ $11x$

Work out the value of the mean of the expressions.

[5 marks]

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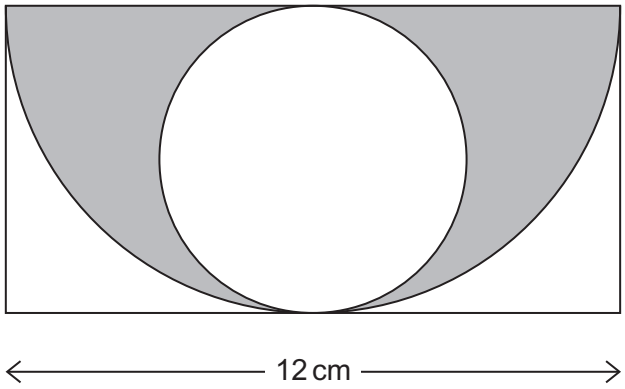
Answer .....

Turn over for the next question

10

26 The diagram shows a rectangle, a semi-circle and a circle.



Not drawn accurately

Work out the area of the **circle**.

[4 marks]

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Answer ..... cm^2

END OF QUESTIONS

4

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