

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										



General Certificate of Secondary Education  
Foundation Tier

# Mathematics (Linear) B

4365/2F

Paper 2 Calculator

Practice Paper 2012 Specification (Set 3)

**F**

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>a calculator</li> <li>mathematical instruments.</li> </ul>	
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### 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. Cross through any work that you do not want to be marked.

### 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 1, 2 and 9. 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 booklet.

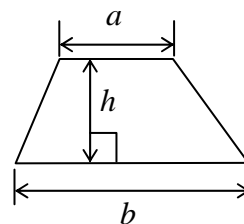
### Advice

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

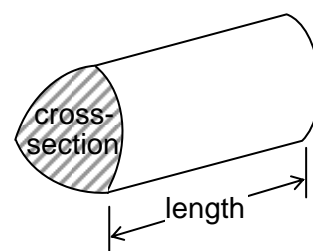
For Examiner's Use	
Pages	Mark
3	
4 – 5	
6 – 7	
8 – 9	
10 – 11	
12 – 13	
14 – 15	
16 – 17	
18 – 19	
20 – 21	
22 – 23	
24	
<b>TOTAL</b>	

**Formulae Sheet: Foundation Tier**

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



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



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

**\*1** Alex is normally paid £9 per hour.

**1 (a)** How much is his pay for 20 hours?

.....  
.....

Answer £ ..... (2 marks)

**1 (b)** On Sunday, he gets  $1\frac{1}{2}$  times his normal pay per hour.

How much is this?

.....  
.....

Answer £ ..... per hour (2 marks)

**Turn over for the next question**

**\*2** This is how 15 students travel to school.


Walk	Bus	Car	Walk	Walk
Bus	Car	Bus	Bus	Bus
Car	Car	Walk	Walk	Walk

**2 (a)** Complete the tally chart.

	Tally	Frequency
Walk		
Bus		
Car		

*(3 marks)*

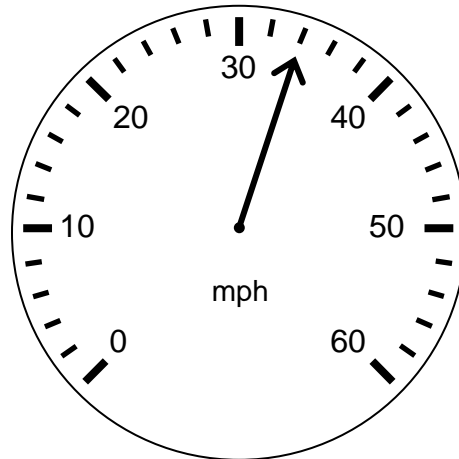
**2 (b)** Complete the pictogram.

**Key**  represents 2 students

Walk	
Bus	
Car	

*(2 marks)*

3



3 (a) What speed does the arrow show?

Answer ..... mph (1 mark)

3 (b) The speed limit is 60 mph.

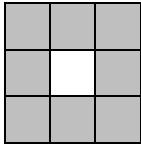
How many mph below the speed limit is the speedometer reading?

.....

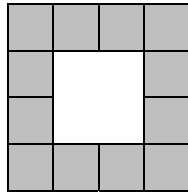
Answer ..... mph (1 mark)

**Turn over for the next question**

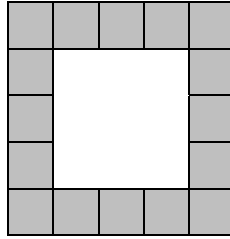
4 Here is a sequence of patterns.



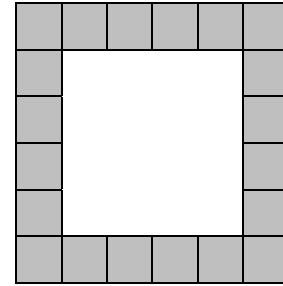
Pattern 1



Pattern 2



Pattern 3



Pattern 4

4 (a) How many shaded squares will be in Pattern 5?

.....

Answer ..... (2 marks)

4 (b) Tick true or false for the **number of shaded squares** in each pattern.

	True	False
It is <b>always</b> odd	<input type="checkbox"/>	<input type="checkbox"/>
It is <b>always</b> a multiple of 4	<input type="checkbox"/>	<input type="checkbox"/>
It is <b>sometimes</b> a square number	<input type="checkbox"/>	<input type="checkbox"/>
It is <b>sometimes</b> prime	<input type="checkbox"/>	<input type="checkbox"/>

(4 marks)

5 (a) Here is a bank statement.

Date	Description	Credits	Debits	Balance
				£ 250.00
06/08/2011	Cash		£ 40.00	£ 210.00
07/08/2011	Cash		£ 50.00	.....
08/08/2011	Deposit	£ 130.00		.....

Complete the balance column.

(2 marks)

5 (b) Here is a different bank statement with a coffee stain.

Date	Description	Credits	Debits	Balance
				£ 457.35
09/08/2011	Cash		£ 50.00	£ 407.35
10/08/2011	[Coffee Stain]			£ 482.35

Has the coffee stain covered a credit or a debit?

Tick a box.

Credit       Debit

How much is it for?

.....

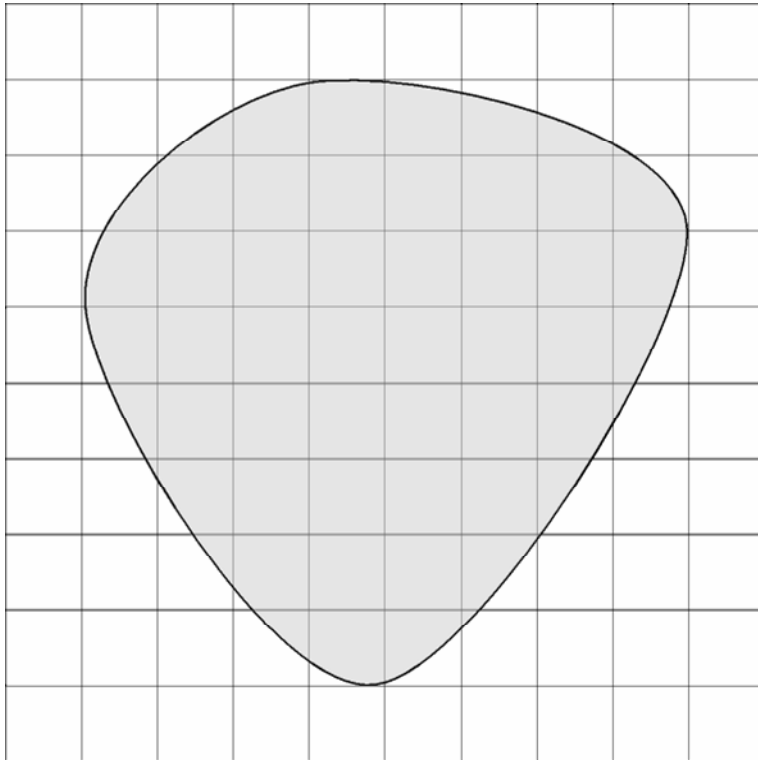
.....

.....

Answer £ ..... (2 marks)

10

6 The diagram shows a centimetre grid.



Estimate the area of the shaded shape.

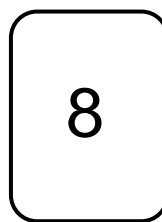
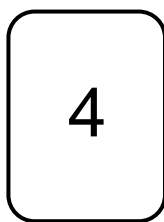
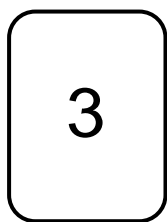
State the units of your answer.

.....  
.....

Answer ..... (3 marks)



7 Here are three cards.



7 (a) Arrange the cards to give a multiplication with the **largest** answer.  
Work out the answer.

$$\boxed{\phantom{00}} \boxed{\phantom{00}} \times \boxed{\phantom{00}} = \dots\dots\dots$$

(3 marks)

7 (b) Arrange the cards to make this division correct.

$$\boxed{\phantom{00}} \boxed{\phantom{00}} \div \boxed{\phantom{00}} = 28$$

(2 marks)

8 Work out  $92.6 \div 32.4$

Give your answer to one decimal place.

.....

Answer ..... (2 marks)

\*9 First class stamps cost 46 p.  
Second class stamps cost 36 p.

How many more second class stamps can be bought for £10 than first class stamps?

You **must** show your working.

.....

.....

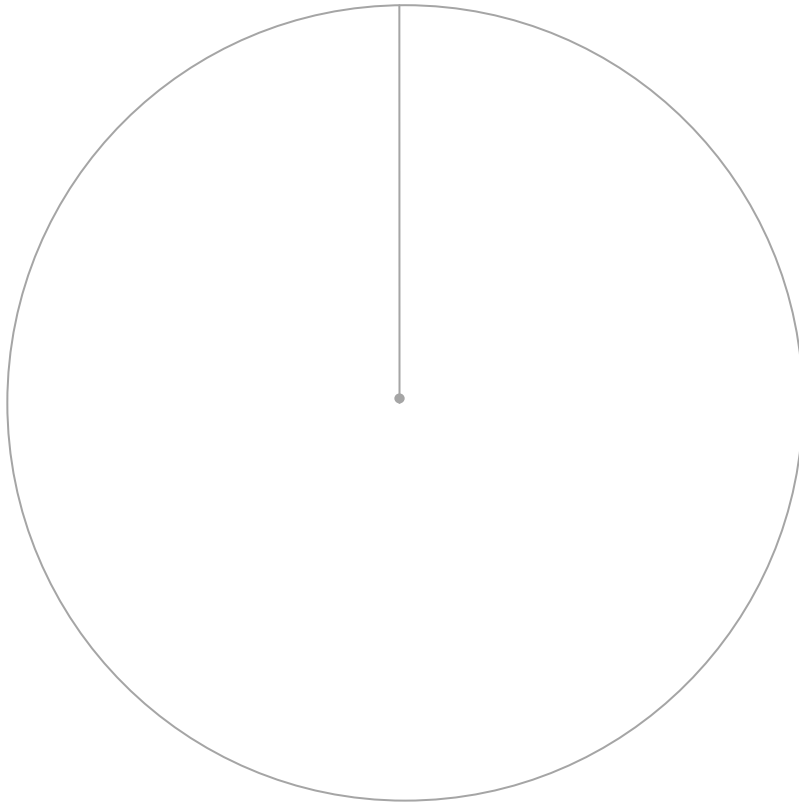
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Answer ..... (4 marks)

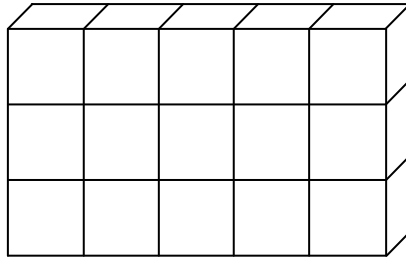
**10** Draw a fully labelled pie chart for this data.

A	630
B	180
C	270
Total	1080



Answer ..... (4 marks)

- 11 The diagram shows a cuboid made from centimetre cubes.



- 11 (a) Work out the volume of the cuboid.

Answer .....  $\text{cm}^3$  (1 mark)

- 11 (b) Draw a sketch of a net of the cuboid.

(2 marks)

**12 (a)** The size of a TV is 52 inches.

Work out the size in centimetres.

.....  
 .....

Answer ..... cm (2 marks)

**12 (b)** John weighs 165 pounds.

Work out his weight in kilograms.

.....  
 .....

Answer ..... kg (2 marks)

**13 (a)** Work out the value of  $3x + 2y + 4z$  when  $x = 5$ ,  $y = 4$  and  $z = \frac{1}{2}$

.....  
 .....

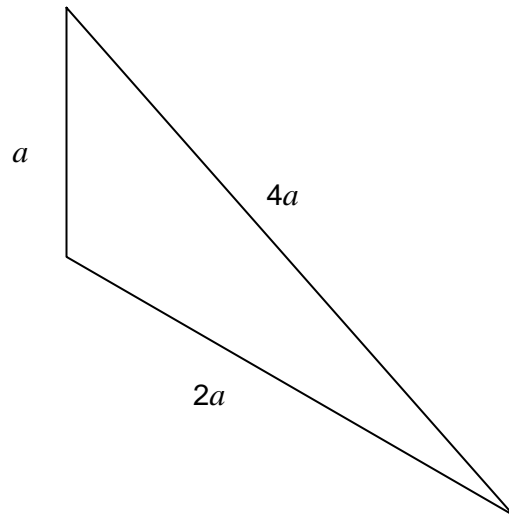
Answer ..... (3 marks)

**13 (b)** Solve  $4x = 12$

.....

$x =$  ..... (1 mark)

14

Not drawn  
accurately

- 14 (a)** Work out an expression for the perimeter of the triangle.  
Simplify your answer.

.....  
.....

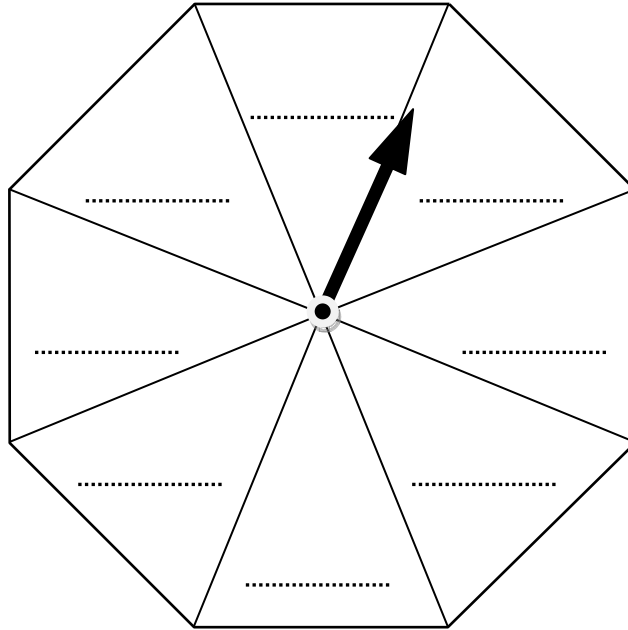
Answer ..... (2 marks)

- 14 (b)** The perimeter of the triangle is 21 cm.  
Work out the value of  $a$ .

.....  
.....

Answer ..... cm (2 marks)

- 15 On this fair spinner all sections are equal.



Put *A*, *B* or *C* on the sections so that

the probability of landing on *A* is more than  $\frac{1}{2}$

the spinner is twice as likely to land on *B* than on *C*.

(2 marks)

- 16 (a) Use your calculator to work out  $\sqrt{5.76}$

Answer ..... (1 mark)

- 16 (b) Use your calculator to work out  $\frac{3}{5}$  of 275

.....

Answer ..... (2 marks)

**17**       $3a + b = 20$

Work out **two** possible pairs of values for  $a$  and  $b$ .

.....

.....

.....

.....

$a = \dots\dots\dots, b = \dots\dots\dots$

$a = \dots\dots\dots, b = \dots\dots\dots$  (3 marks)

**18**      Chris has £1.50

Jake has twice as much as Chris.

How much does Jake have to give to Chris so that they both have the same amount?

.....

.....

.....

.....

Answer ..... pence (3 marks)



- 19** Two ordinary, fair six-sided dice are rolled together.  
The numbers are multiplied to get the score.

- 19 (a)** Complete the table.

$\times$	1	2	3	4	5	6
1	1	2	3			
2	2	4				
3	3					
4						24
5					25	30
6				24	30	36

(2 marks)

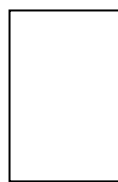
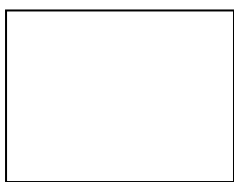
- 19 (b)** Work out the probability of getting a score less than 10.

Answer ..... (2 marks)

- 19 (c)** Work out the probability of getting a score that is a prime number.

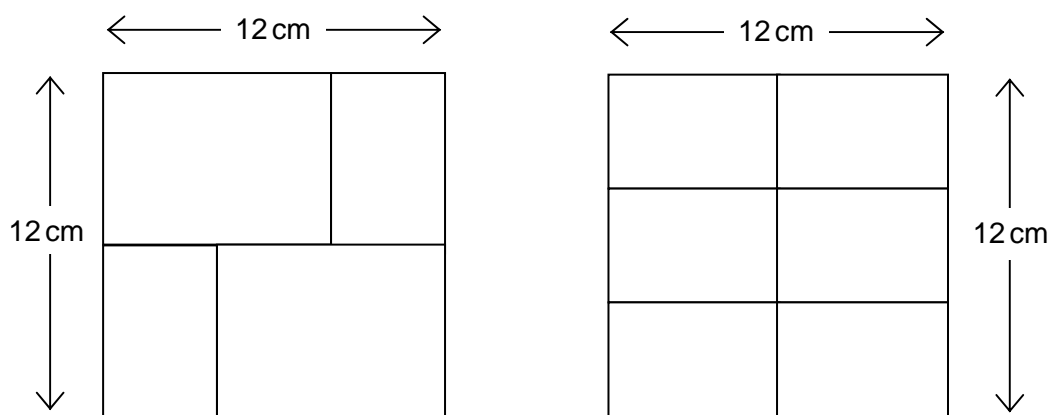
Answer ..... (2 marks)

20 Here are two rectangles.



The rectangles fit together to make identical squares as shown.

Not drawn accurately



Work out the area of the larger rectangle.

.....

.....

.....

.....

.....

.....

Answer .....  $\text{cm}^2$  (4 marks)

**21** Here are four expressions.

$x - 1$

$4x$

$2x + 4$

$x^2 + 1$

**21 (a)** Show that when  $x = 1$  the median has the same value as the mean.

.....

.....

.....

.....

.....

.....

(5 marks)

**21 (b)** Here are the expressions again.

$x - 1$

$4x$

$2x + 4$

$x^2 + 1$

Work out the value of  $x$  if the mode is 10.

.....

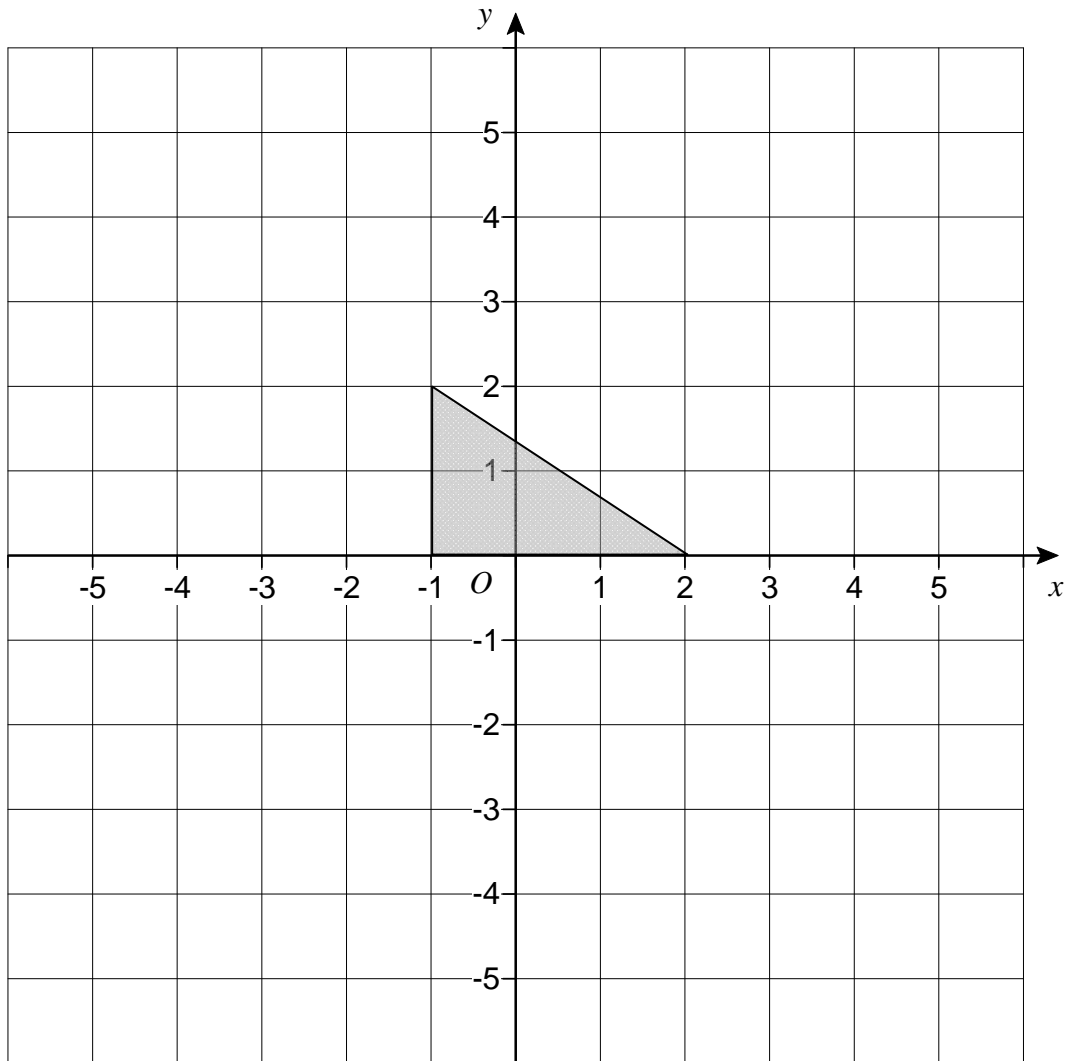
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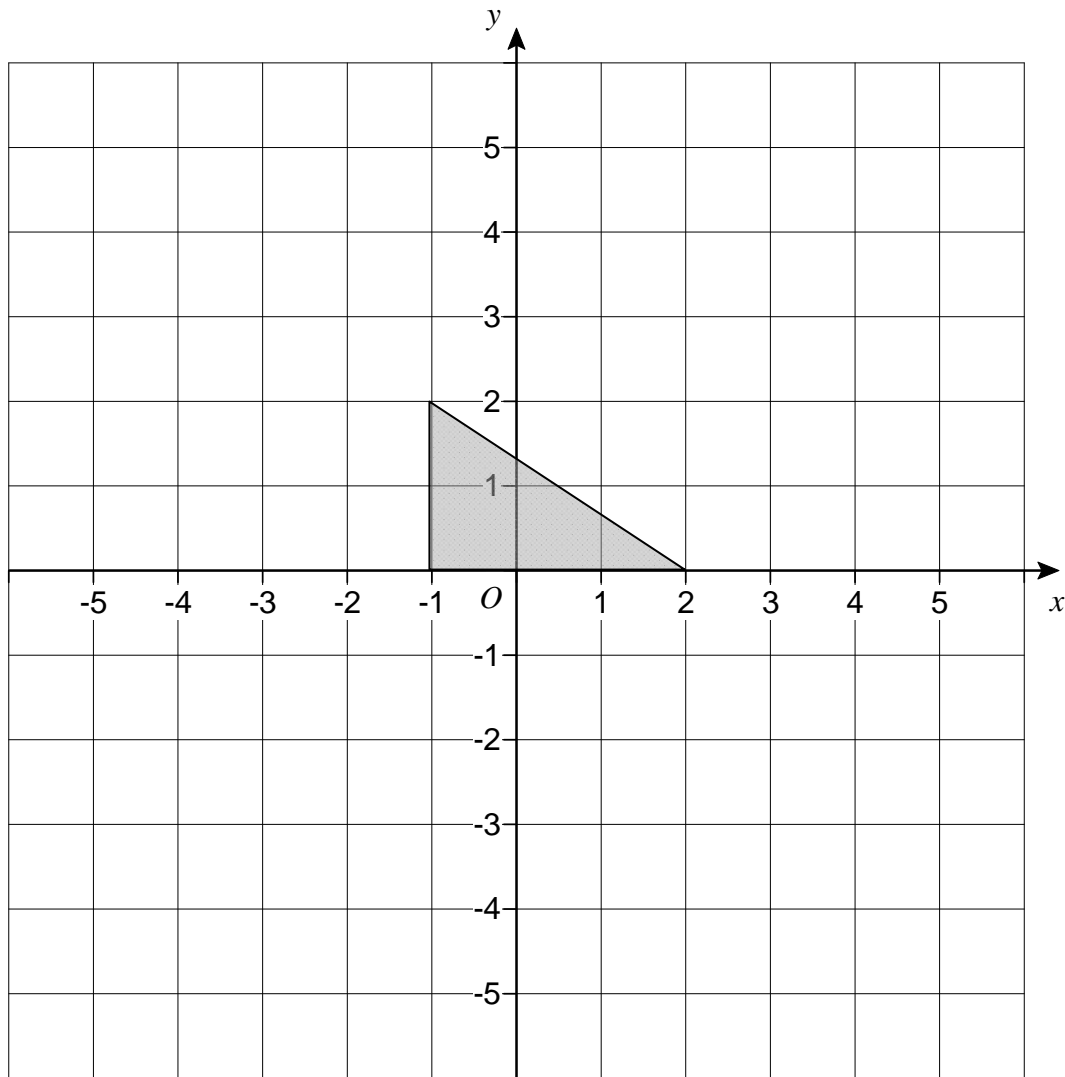
Answer ..... (3 marks)

22 (a) Reflect the triangle in the line  $y = 2$



(2 marks)

22 (b) Translate the triangle by the vector  $\begin{pmatrix} -3 \\ -2 \end{pmatrix}$



(2 marks)

Turn over for the next question

**23 (a)** Vicki goes on a Spa weekend.

Pamper yourself  
with a Spa weekend  
Normal cost £360  
**Offer** 30% off

She uses a voucher for £200

How much more does she pay?

.....

.....

.....

.....

Answer £ ..... (4 marks)

**23 (b)** Here are the prices for three treatments at the Spa.

Treatment A

£40

Treatment B

£65

Treatment C

£95

The Spa has this special offer.

Take **all** three treatments  
Get the cheapest free

Work out the percentage saved when taking this offer.

.....

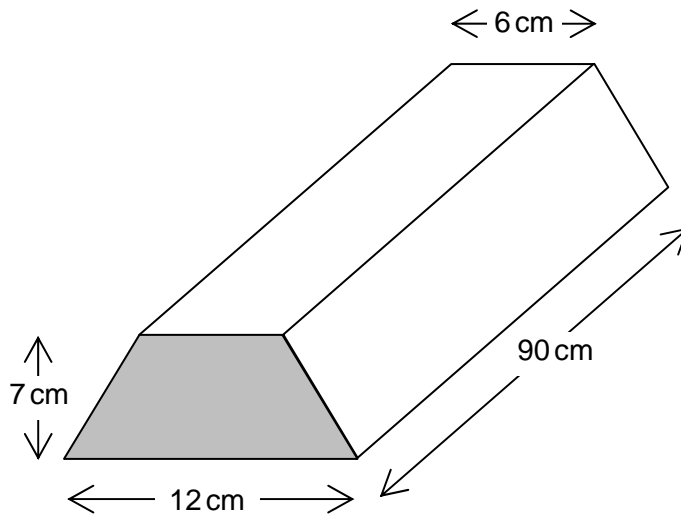
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Answer ..... % (3 marks)

- 24 The cross-section of a building block is a trapezium.



- 24 (a) Calculate the volume of the block.

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.....

.....

Answer .....  $\text{cm}^3$  (3 marks)

- 24 (b) The block is made of concrete.  
One cubic centimetre of concrete weighs 2.3 grams.  
Calculate how much the building block weighs.  
Give your answer to the nearest kilogram.

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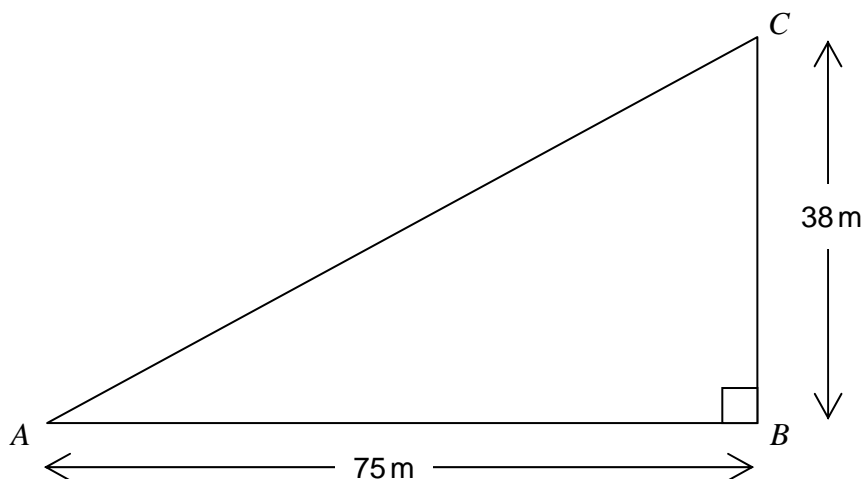
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Answer ..... kg (3 marks)

Turn over for the next question

25  $ABC$  is a triangular field.



Not drawn  
accurately

A fence is to be built from  $A$  to  $C$ .  
The fence costs £12.50 per metre.

Work out the total cost of the fence.

.....

.....

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.....

.....

.....

Answer £ ..... (5 marks)

**END OF QUESTIONS**