

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										



General Certificate of Secondary Education
Foundation Tier
November 2013

Mathematics (Linear)

4365/1F

Paper 1

Friday 8 November 2013 9.00 am to 10.15 am

F

<p>For this paper you must have:</p> <ul style="list-style-type: none"> mathematical instruments. <p>You must not use a calculator.</p>	
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Time allowed

- 1 hour 15 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 70.
- The quality of your written communication is specifically assessed in Questions 7, 13 and 19. 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.

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	
TOTAL	



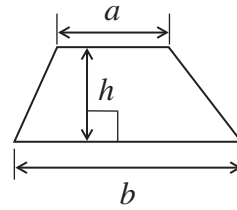
N 0 V 1 3 4 3 6 5 1 F 0 1

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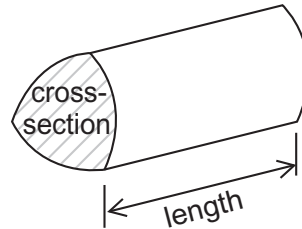
4365/1F

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 (a) Circle the factor of 100.

8 11 15 16 18 20

(1 mark)

1 (b) Circle the multiple of 9.

8 11 15 16 18 20

(1 mark)

1 (c) Circle the square number.

8 11 15 16 18 20

(1 mark)

1 (d) Circle the cube number.

8 11 15 16 18 20

(1 mark)

Turn over for the next question



2 Billy asked 20 people,

“What is your favourite crisp flavour?”

2 (a) Complete the tally chart to show Billy’s results.

Favourite crisp flavour	Tally	Frequency
Plain		12
Cheese and Onion		
Barbecue		3
	Total	20

(2 marks)

2 (b) Billy uses his tally chart to draw a pictogram.

Complete the pictogram and the key.

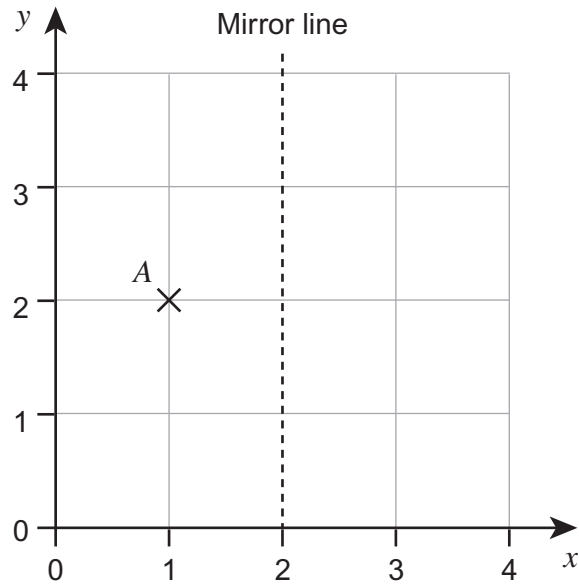
Key: represents people

Plain	
Cheese and Onion	
Barbecue	○ ◐

(3 marks)



3



3 (a) Write down the coordinates of A.

Answer (..... ,) (1 mark)

3 (b) Circle the equation of the mirror line.

$y = 2$

$x + y = 2$

$x = 2$

$y = x + 2$

(1 mark)

3 (c) The point A is **reflected** in the mirror line.

Work out the coordinates of the reflected point.

Answer (..... ,) (1 mark)

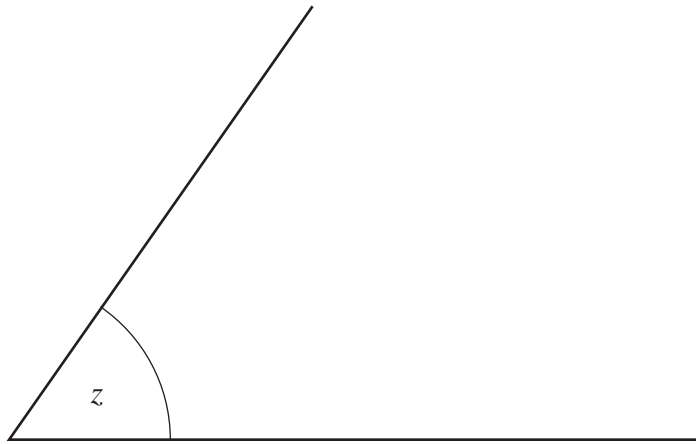


- 4 (a)** Measure the length of this line.
Give your answer in centimetres.



Answer cm (1 mark)

- 4 (b)** Measure the size of angle z .



Answer degrees (1 mark)



5 Here is a café menu.

Sandwich	£2.20
Slice of Pizza	£1.80
Drink	50p
Piece of Fruit	60p
Cake	80p

The café offers a Meal Deal.

Meal Deal

Get 80p off if you buy

1 sandwich

1 drink

and

1 piece of fruit.

How much does a meal deal cost?

You **must** show your working.

.....

.....

.....

.....

Answer £ (3 marks)



6

Cola



£1.25

Machine takes £1, 50p,
20p, 10p, and 5p coins
only.

Change given

Ann wants a cola.

She has these coins.



What coins could Ann use?

How much change will she get?

Ann uses

Change she gets is

(2 marks)



7 (a) Put these in order starting with the smallest.

33.3

 $\frac{1}{3}$

-0.3

3.03

Answer , , , (2 marks)

***7 (b)** Jo thinks the difference between - 0.3 and 33.3 is 33.

Is she correct?

Tick a box.

☐

Yes

☐

No

Show clearly how you decide.

.....

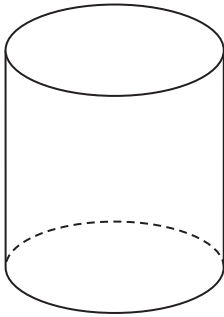
.....

(2 marks)

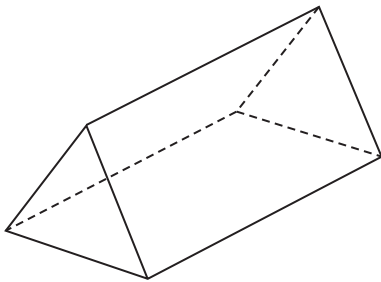
Turn over for the next question



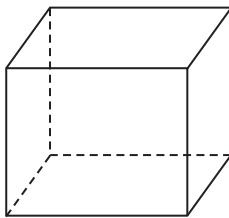
- 8 (a) Match the solid to its mathematical name.
The first one has been done for you.



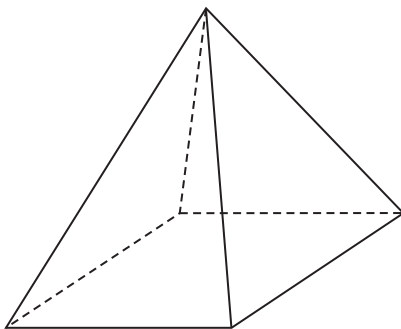
● Sphere



● Cube



● Square-based pyramid



● Triangular prism

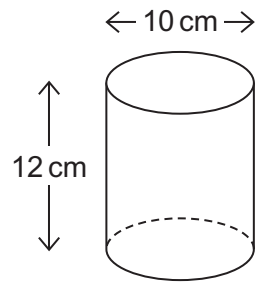
● Cylinder

● Cone

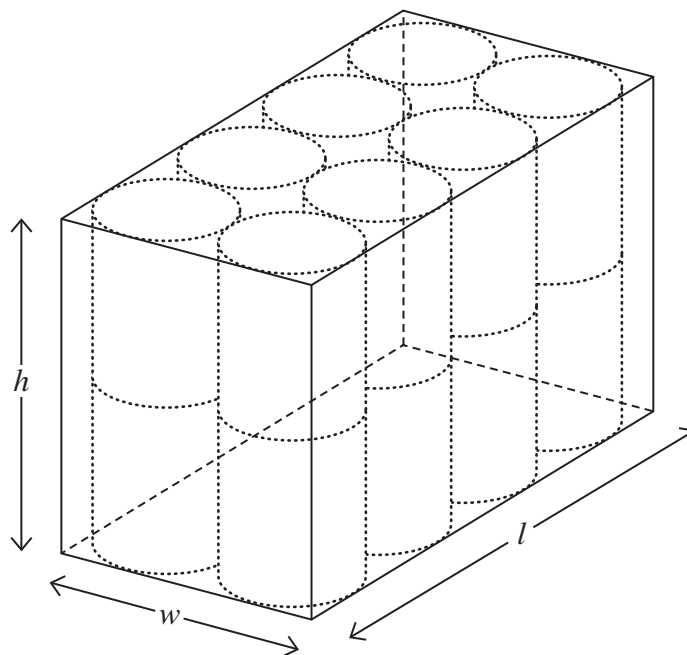
(3 marks)



- 8 (b)** This cylinder has a diameter of 10 cm and a height of 12 cm.



16 of the cylinders are packed tightly into a box.



Work out the length, l , the height, h and the width, w of the box.

$l =$ cm

$h =$ cm

$w =$ cm

(3 marks)

6

Turn over ►



9 (a) Work out the next term in this sequence.

0 3 6 9 12

Answer (1 mark)

9 (b) Describe the rule for continuing this sequence.

45 41 37 33 29

Answer (1 mark)

9 (c) The sequences in parts **(a)** and **(b)** continue.

Work out a number that is in both sequences.

.....
.....

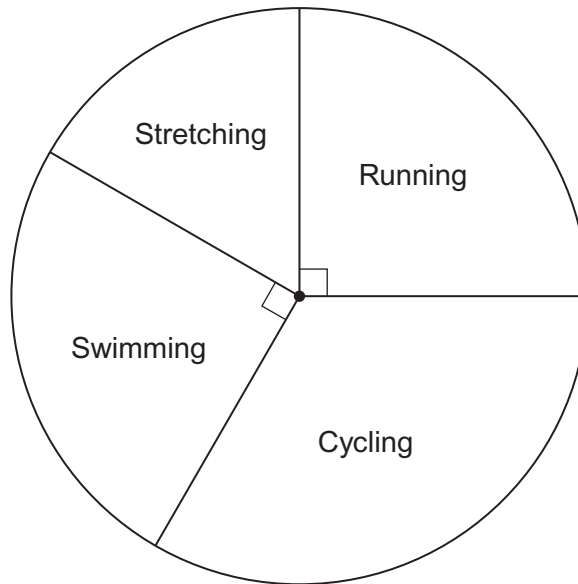
Answer (2 marks)



10

Ryan trained for 6 hours.

Information about his training times is shown in the pie chart.

**Ryan's
training**

10 (a) How long did Ryan spend running?

Answer hours (1 mark)

10 (b) Ryan spent twice as long cycling as stretching.

What fraction of the 6 hours did Ryan spend stretching?

Give your answer in its simplest form.

.....

.....

.....

Answer (3 marks)



11 (a) Simplify $3a + 2a - a$

Answer (1 mark)

11 (b) Simplify $2b \times 3b$

Answer (1 mark)

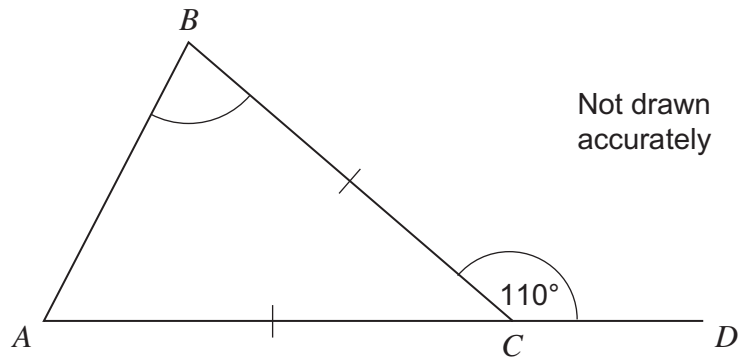
11 (c) Multiply out $3(2c - 1)$

Answer (1 mark)



12

$AC = BC$

 ACD is a straight line.Work out the size of angle ABC .You **must** show your working, which may be on the diagram.

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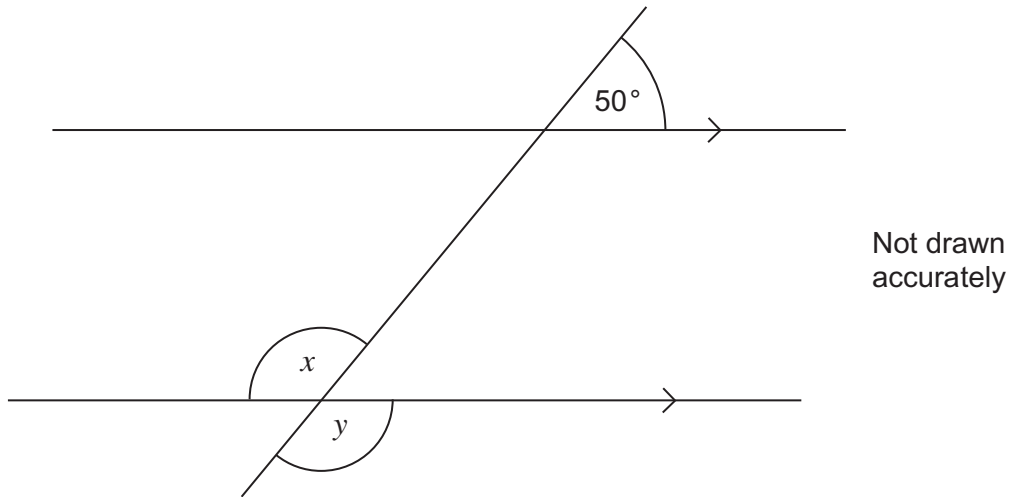
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Answer degrees (3 marks)

Turn over for the next question



13



13 (a) Work out the size of angle x .

Answer degrees (1 mark)

*13 (b) Which **one** of these describes angles x and y ?
Circle your answer.

alternate angles

corresponding angles

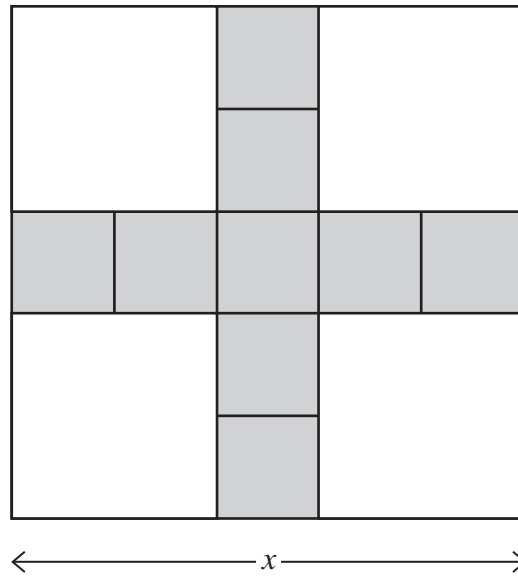
interior angles

vertically opposite angles

(1 mark)



- 14 Each small shaded square has an area of 4 cm^2 .



Not drawn
accurately



Area = 4 cm^2

Work out the length x .

.....

.....

Answer cm (3 marks)

Turn over for the next question



- 15** A dentist records the number of fillings she did during the 23 working days in October 2012.

The stem-and-leaf diagram shows the results.

Key: 1 | 2 represents 12 fillings

0		3	4	5	5	6	8	8	8		
1		0	1	1	3	3	3	4	6	8	9
2		0	1	1	2	5					

- 15 (a)** Work out the range.

Answer (1 mark)

- 15 (b)** Work out the median.

Answer (1 mark)

- 15 (c)** During 2013 the dentist ran a 'healthy teeth' campaign with her patients. In October 2013 the median number of fillings per working day was 9.

Was the dentist successful with her campaign?
Tick a box.

☐

Yes

☐

No

☐

Cannot tell

Give a reason for your answer.

.....

.....

(1 mark)



16 $E = mv^2$

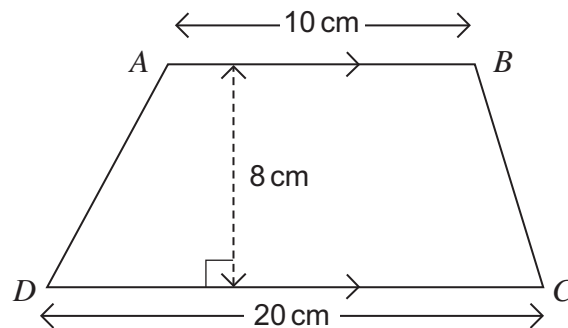
Work out the value of E when $m = 3$ and $v = 10$

.....

.....

Answer (2 marks)

17 $ABCD$ is a trapezium.



Not drawn
accurately

Calculate the area of $ABCD$.
State the units of your answer.

.....

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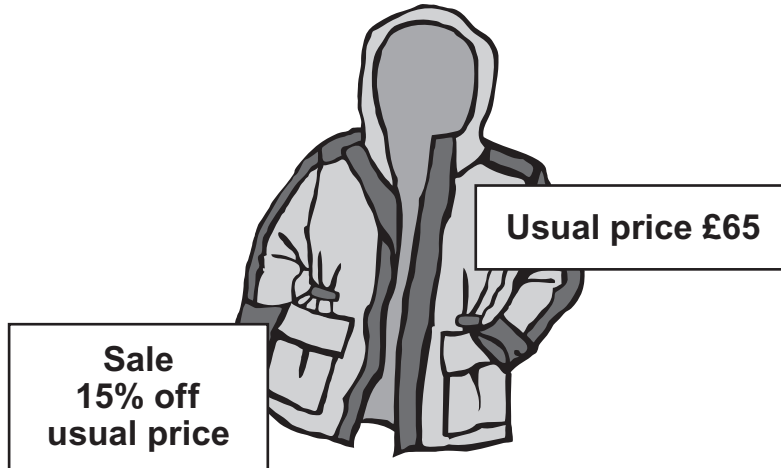
.....

.....

Answer (3 marks)



18



Work out the sale price.

.....

.....

.....

Answer £

(3 marks)



***19**

There are 24 counters in a bag.

One-third of the counters are blue.

5 red, 5 white and 5 blue counters are added to the bag.

Tom says,

“The probability of taking a blue counter from the bag is still $\frac{1}{3}$ ”

Is he correct?

Tick a box.

☐

Yes

☐

No

☐

Cannot tell

Give a reason for your answer.

.....

.....

.....

(3 marks)

20

Which of these fractions is closest to $\frac{3}{4}$?

$$\frac{2}{3}$$

$$\frac{3}{5}$$

$$\frac{7}{10}$$

$$\frac{13}{20}$$

You **must** show your working.

.....

.....

.....

Answer

(3 marks)



21 A fruit drink is made by mixing juice and lemonade in the ratio

$$\text{juice : lemonade} = 1 : 4$$

Juice costs £6.00 per litre.

Lemonade costs 50p per litre.

21 (a) Show that 1 litre of the fruit drink costs £1.60 to make.

.....

.....

.....

(3 marks)

21 (b) The fruit drink is sold for £2 a litre.

Work out the percentage profit.

.....

.....

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Answer % (2 marks)

END OF QUESTIONS



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