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	
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20 – 21	
22 – 23	
TOTAL	

AQA

General Certificate of Secondary Education
Foundation Tier
June 2014

Mathematics (Linear) 4365/1F

Paper 1

F

Monday 9 June 2014 9.00 am to 10.15 am

For this paper you must have: • mathematical instruments. You must **not** use a calculator	

Time allowed
- 1 hour 15 minutes

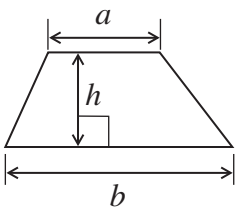
Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this 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 2 and 16. 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.

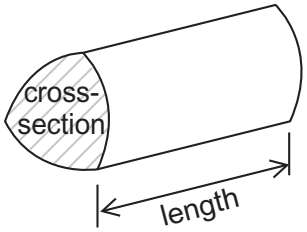
Advice
- In all calculations, show clearly how you work out your answer.

Formulae Sheet: Foundation Tier

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

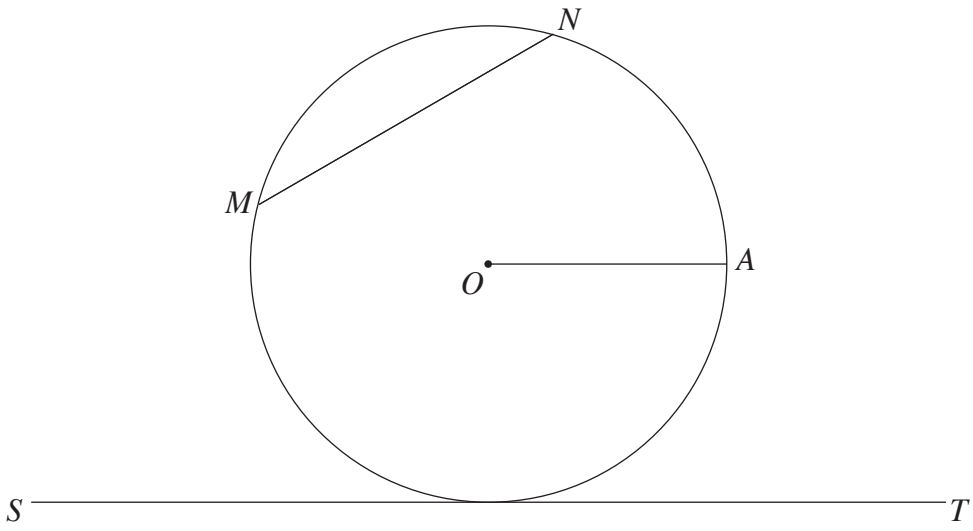


Volume of prism = area of cross section × length



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

1 O is the centre of the circle.



Circle the word to complete each sentence.

1 (a) The line OA is a

[1 mark]

chord circumference diameter radius tangent

1 (b) The line MN is a

[1 mark]

chord circumference diameter radius tangent

1 (c) The line ST is a

[1 mark]

chord circumference diameter radius tangent

3

***2 (a)** Five friends want to raise at least £200 altogether for charity.
The pictogram shows how much they each raise.

Key:  represents £10

Ahmed 

Beth 

Carly 

Donna 

Ethan 

Do they reach their target of £200?
Tick a box.

Yes ☐ No ☐

You **must** show your working.

[4 marks]

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***2 (b)** Sam raises £70 for the charity.
His father adds 25% to this.

Work out 25% of £70

[2 marks]

.....

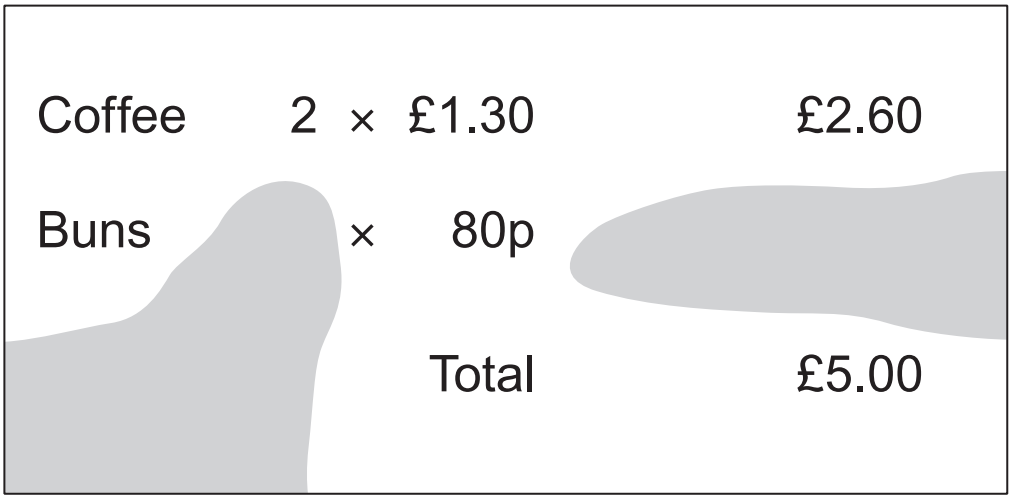
.....

Answer £ .....

Turn over for the next question

6

3 This is a bill for coffee and buns.
The bill has coffee spilt on it.



How many buns were bought?
You **must** show your working.

[3 marks]

.....

.....

.....

.....

Answer .....

4 Rashid writes down some multiples of 3 and 4

3 6 9 12 15 18 21 24 27 .....

4 8 12 16 24 28 .....

4 (a) He notices that 12 and 24 are in both lists.

What will be the next number that is in both lists?

[1 mark]

Answer .....

4 (b) Is 120 in both lists?
Tick a box.

Yes ☐ No ☐

Give a reason for your choice.

[1 mark]

.....

.....

Turn over for the next question

5

5 (a) Work out 147 + 625

[1 mark]

Answer .....

5 (b) Work out 305 – 129

[1 mark]

Answer .....

5 (c) Work out 50×14

[1 mark]

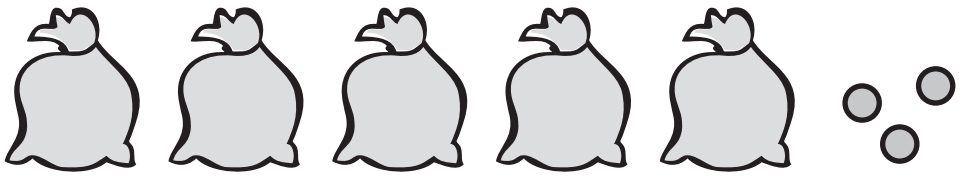
Answer .....

5 (d) Work out 1000 ÷ 25

[1 mark]

Answer .....

6 (a) Tyra has 38 counters.
She puts an **equal** number of counters into five bags.
She has 3 counters left over.



How many counters are in each bag?

[2 marks]

Answer .....

6 (b) She now puts an **equal** number of the 38 counters into **six** bags.

What is the least number of counters that will be left over?

[1 mark]

Answer .....

6 (c) She now puts the 38 counters into some bags so that

Each bag has an **equal** number.
There are **no** counters left over.
There are more than 10 counters in each bag.

Work out the number of bags and number of counters in each bag.

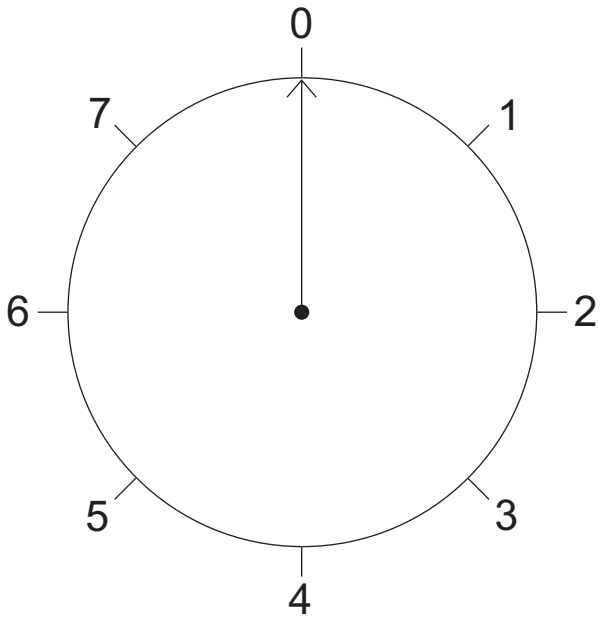
[1 mark]

Number of bags .....

Number of counters in each bag .....

8

7 A circular spinner has 8 **equal** divisions as shown.



7 (a) The arrow turns clockwise from 0 to 4

What angle does it turn through?

[1 mark]

Answer ..... degrees

7 (b) The arrow turns 45º clockwise from 5

What number does it point to?

[1 mark]

Answer .....

7 (c) The arrow turns anti-clockwise from 7 to 4

What angle does it turn through?

[1 mark]

Answer ..... degrees

8 Here is a part of a pattern of calculations.

Fill in the missing numbers.

[4 marks]

$5^2 - 5 \times 3 = 10$

$6^2 - 6 \times 4 = 12$

$7^2 - 7 \times 5 = ...$

$9^2 - 9 \times ..... = ...$

$.....^2 - ..... \times ..... = 24$

7

9 One week Ruben was paid £210
He spends £90
He saves $\frac{1}{4}$ of the rest.

How much money did he save?

[3 marks]

.....

.....

.....

.....

.....

Answer £ .....

10 Write down a sensible unit to measure each of the following.

10 (a) The amount a bus weighs.

[1 mark]

Answer .....

10 (b) The length of a fingernail.

[1 mark]

Answer .....

11 (a) Solve $x - 7 = 18$

[1 mark]

.....

$x =$ .....

11 (b) Write an equation which has 8 as its solution.

[1 mark]

.....

Answer .....

11 (c) The solution to $2x + a = b$ is $x = 5$

Work out **one** possible pair of values for a and b.

[2 marks]

.....

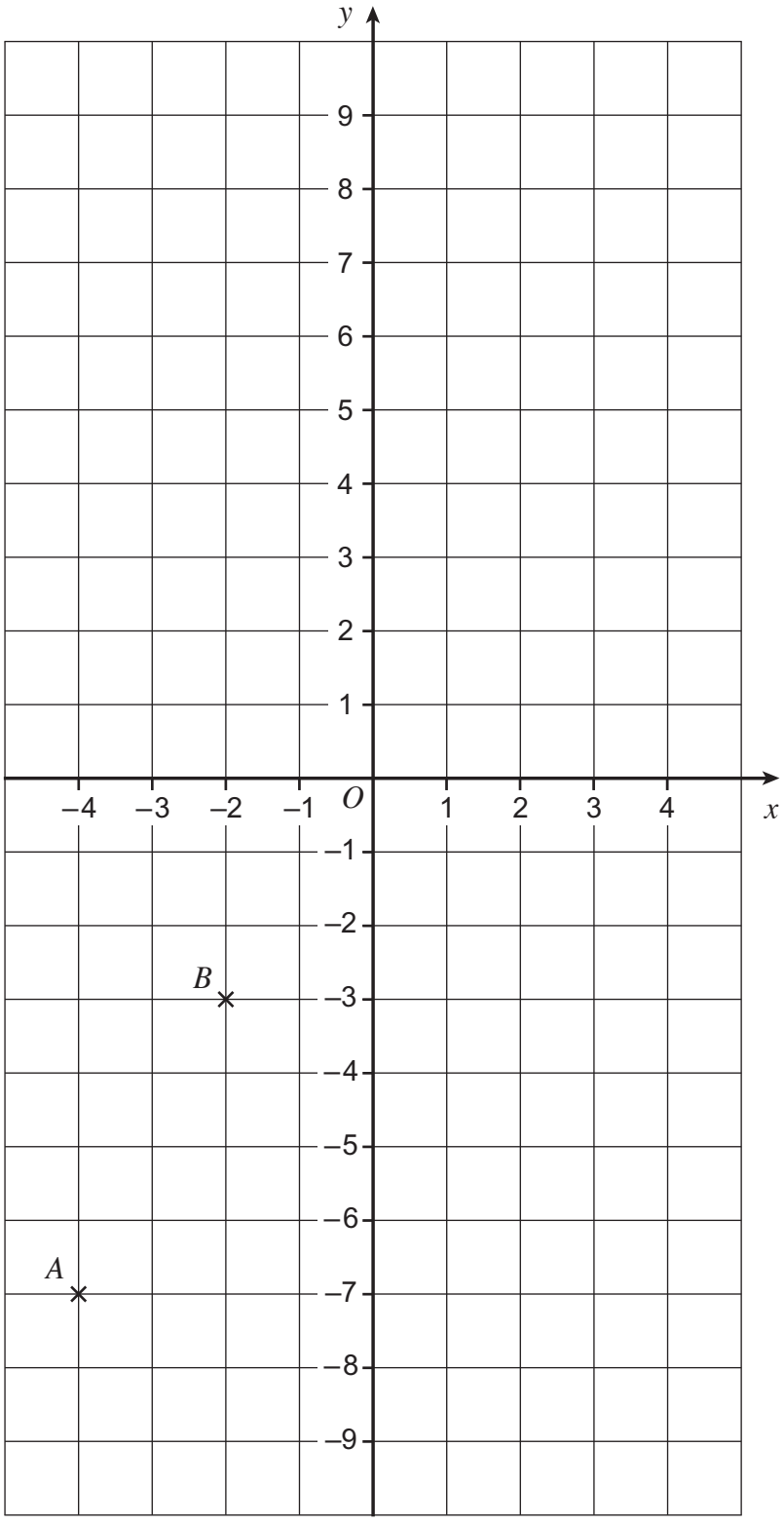
.....

.....

$a =$ ..... $b =$ .....

9

12 Points A (–4, –7) and B (–2, –3) are plotted.
A and B lie on the line $y = 2x + 1$



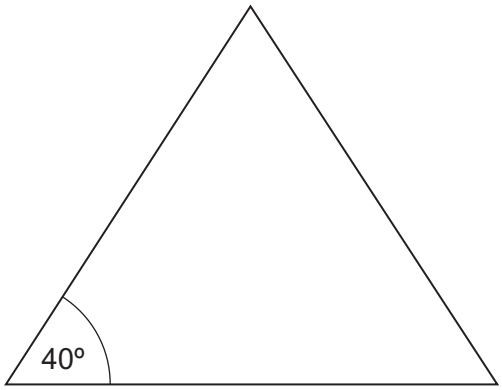
Write down the coordinates of **two** other points on the line $y = 2x + 1$

[2 marks]

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

(..... , ...)

13 The diagram shows an **isosceles** triangle.



Not drawn accurately

Work out the **possible sizes** of the other **two** angles.
Give both **different** pairs of answers.

[3 marks]

40º and ..... and .....

or 40º and ..... and .....

Turn over for the next question

5

14 Circle the correct word to describe the following.

14 (a) $2x - 7y$

[1 mark]

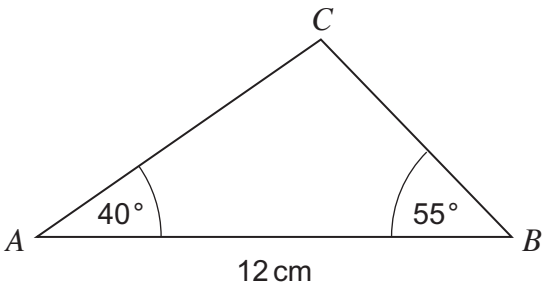
Equation Expression Formula

14 (b) $P = 2l + 2w$

[1 mark]

Equation Expression Formula

15 Using a ruler and a protractor, draw this triangle accurately.



Not drawn accurately

The base AB has been drawn for you.

[3 marks]

A ——————————————————————— B

5

Turn over ▶

***16** A shop sells DVDs and CDs.

DVDs are sold at one price.
CDs are sold at a different price.

2 DVDs and 1 CD cost £35
2 DVDs and 2 CDs cost £45

Martin has £50

Does he have enough to buy 1 DVD and 3 CDs?
You **must** show your working.

[5 marks]

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17 (a) Write down four **different** numbers that have

a **median** of 5
and a **range** of 7

Put the numbers in order.

[2 marks]

.....

.....

Answer ..... , ... , ... , ...

17 (b) The table shows the scores of 20 students in a test.

Score	Frequency
7	6
8	9
9	4
10	1
Total	20

Work out the mean score.

[3 marks]

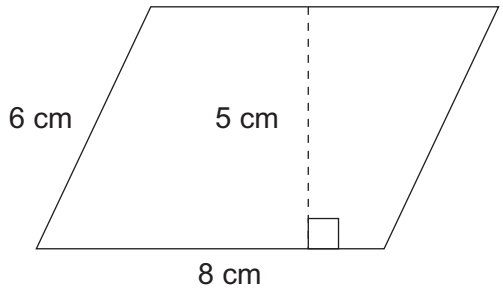
.....

.....

Answer .....

10

18 (a) Work out the area of this parallelogram.



Not drawn accurately

State the units of your answer.

[3 marks]

.....

.....

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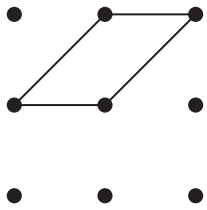
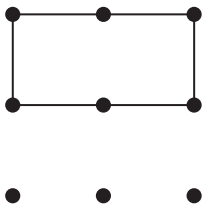
Answer .....

18 (b) Shaz is drawing quadrilaterals on a nine-point square grid by joining points.

For example





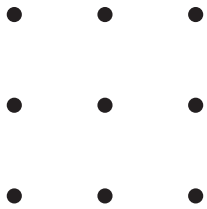
She says,

"If you draw a quadrilateral it will **always** have line or rotational symmetry."

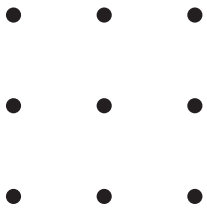
Draw a quadrilateral on the grid below to show that Shaz is wrong.
Use the first two grids for practice and the bottom grid for your answer.

[1 mark]

Practice grids



Answer grid



4

19 John goes to work by car or by train.

19 (a) The probability that John goes by car is 0.4

Work out the probability he goes by train.

[1 mark]

.....

.....

Answer .....

19 (b) John works for 200 days each year.

How many days would you expect him to go to work by car?

[2 marks]

.....

.....

Answer .....

19 (c) Ben also goes to work by car or by train.
Out of 200 days, he went by car on 150 days.

Work out the relative frequency that Ben goes to work by car.

[1 mark]

.....

.....

Answer .....

20 (a) Work out the Highest Common Factor (HCF) of 24 and 42

[2 marks]

.....

.....

Answer .....

20 (b) As a product of prime factors $36 = 2^2 \times 3^2$

Write 48 as a product of prime factors.

[2 marks]

.....

.....

Answer .....

END OF QUESTIONS

8

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED