Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need*.
- **Calculators must not be used.**

Information

- The total mark for this paper is 100
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*****) are ones where the quality of your written communication will be assessed.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

P 4 4 0 2 1 A 0 1 2 8
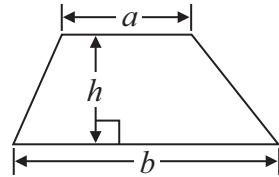
**PEARSON**

GCSE Mathematics 1MA0
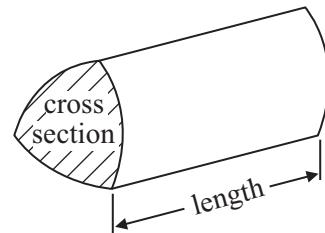
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

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

Volume of prism = area of cross section × length

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1 (a) Write these numbers in order of size.
Start with the smallest number.

52   102   25   120   55

....
(1)

(b) Write these numbers in order of size.
Start with the smallest number.

6   –2   0   –5   3

....
(1)

(c) Write these numbers in order of size.
Start with the smallest number.
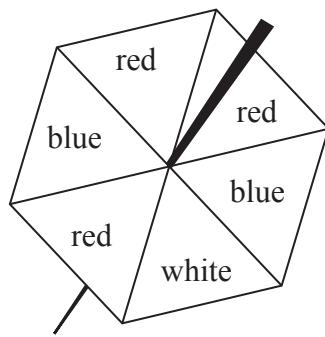
0.63   0.633   0.603   0.6   0.06

....
(1)

(Total for Question 1 is 3 marks)

2 Here is a fair 6-sided spinner.

Ryan is going to spin the spinner once.

(a) Which colour is the spinner most likely to land on?

....
(1)

(b) Choose the word that best describes the probability that the spinner will land on white.

impossible   unlikely   evens   likely   certain

....
(1)

(c) Choose the word that best describes the probability that the spinner will land on green.

impossible   unlikely   evens   likely   certain

....
(1)

(Total for Question 2 is 3 marks)

3 The table shows some information about the numbers of medals won by Great Britain in the 2012 Olympic Games and in the 2012 Paralympic Games.

	Gold	Silver	Bronze
Olympic Games	29	17	19
Paralympic Games	34	43	43

Great Britain won more medals in total in the Paralympic Games than in the Olympic Games.

How many more medals in total?

....

(Total for Question 3 is 3 marks)

4 Here are the first four terms of a number sequence.

    3   7   11   15

(a) Write down the next term of this sequence.

....
(1)

The 50th term of this number sequence is 199

(b) Write down the 51st term of this sequence.

....
(1)

The number 372 is **not** a term of this sequence.

(c) Explain why.

....

....
(1)

(Total for Question 4 is 3 marks)

5 Farah recorded the minimum temperature, in °C, on each of seven days in January.

Here are her results.

Day	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Temp (°C)	–2	–1	2	0	–3	4	7

(a) Work out the difference between the temperature on Tuesday and the temperature on Wednesday.

.... °C
(1)

(b) Work out the mean of the temperatures Farah recorded.

.... °C
(2)

(Total for Question 5 is 3 marks)

6 Here is part of a train timetable from Newcastle to London.

Newcastle	05 56	06 30	07 28
Durham	06 09	06 42	07 41
Darlington	06 28	07 00	07 59
York	06 56	07 33	08 27
Peterborough	08 11	08 41	09 48
London	09 08	09 39	10 45

A train leaves Newcastle at 05 56

(a) What time should this train get to London?

....
(1)

Matthew gets to the station in Darlington at 06 45
He wants to catch the next train to York.

(b) How many minutes should he have to wait for this train?

.... minutes
(1)

A train leaves Peterborough at 09 48

(c) How many minutes should this train take to get from Peterborough to London?
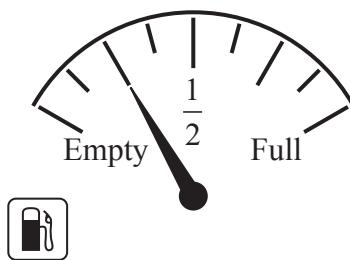
.... minutes
(1)

(Total for Question 6 is 3 marks)

**7** A petrol tank holds 48 litres of petrol when it is full.
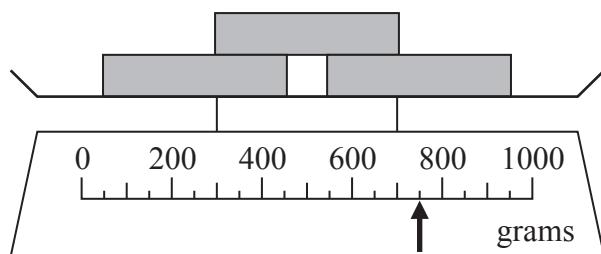
The scale shows information about how much petrol there is in the petrol tank.

(a) Work out the number of litres of petrol in the petrol tank.

.... litres

(2)

The total weight of three boxes is shown on this weighing scale.

Each box has the same weight.
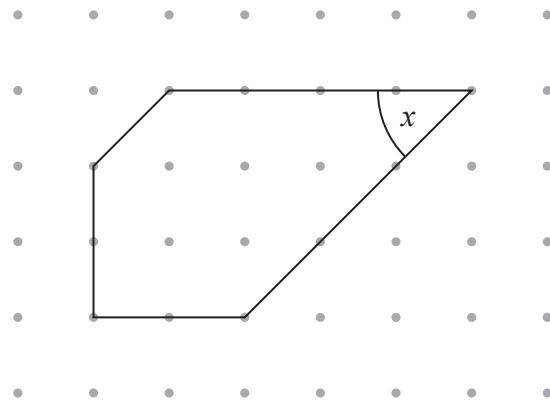
(b) Work out the weight of a box.

.... grams

(3)

(Total for Question 7 is 5 marks)

8 Here is a 5-sided polygon on a dotted centimetre grid.

(a) Write down the mathematical name for a 5-sided polygon.

....
(1)

(b) On the diagram, mark with arrows (>>) a pair of parallel lines.
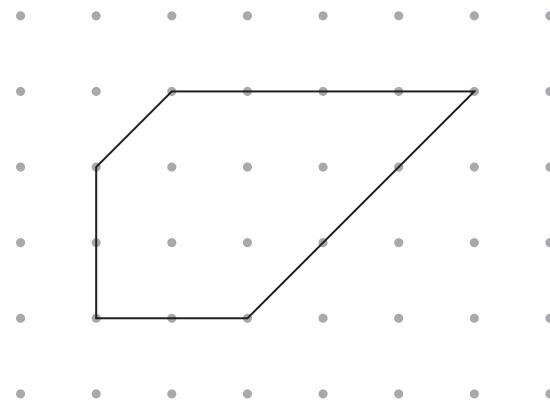
(1)

(c) What type of angle is the angle marked *x*?

....
(1)

Here is the 5-sided polygon on a dotted centimetre grid.

(d) Work out the area of the 5-sided polygon.

....
(2)

**(Total for Question 8 is 5 marks)**
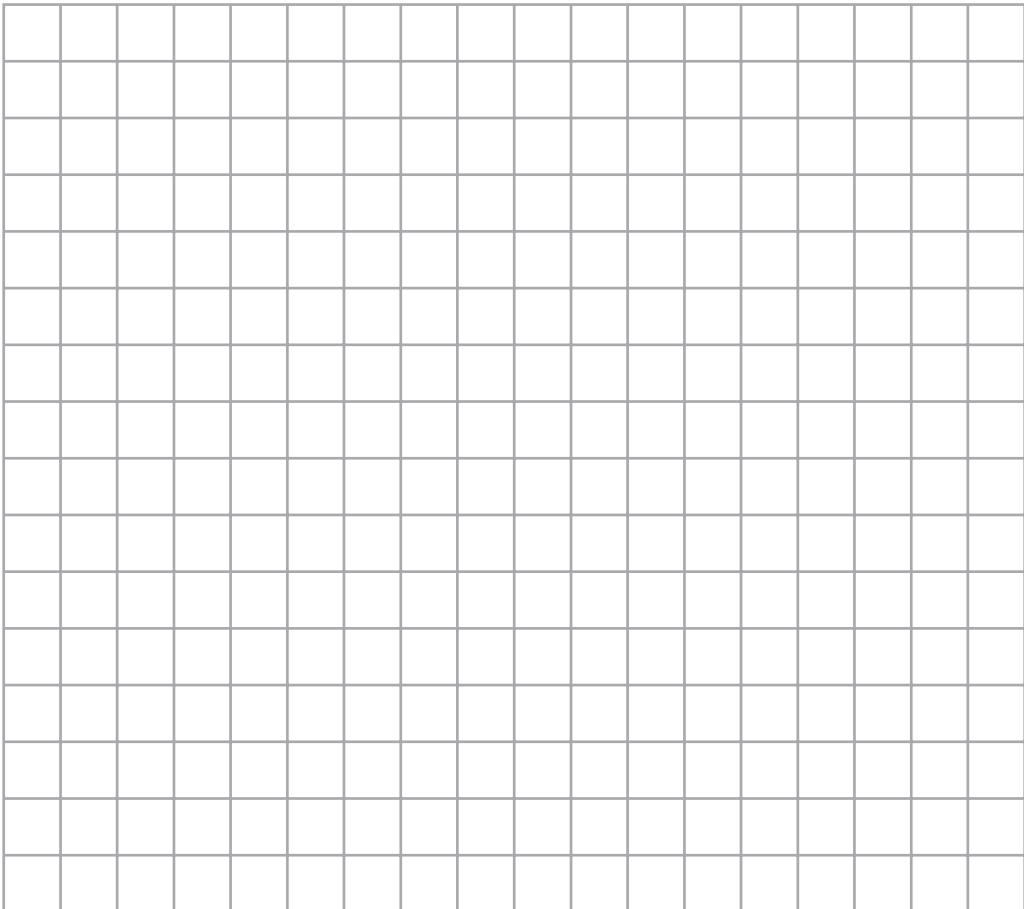
*9 The table shows information about the average daily hours of sunshine in Majorca and in Crete for each of five months.

	April	May	June	July	August
Majorca	9	9	11	11	10
Crete	6	8	11	13	12

Simon wants to compare this information.

On the grid, draw a suitable diagram or chart.

(Total for Question 9 is 4 marks)

10 You can use these rules to change temperatures from °C to °F.

approximate rule	Multiply the °C temperature by 2 and then add 30

exact rule	Multiply the °C temperature by 1.8 and then add 32

Amy uses the **approximate rule** to change 20°C to °F.
Dan uses the **exact rule** to change 20°C to °F.

(a) Work out the difference between Amy's result and Dan's result.

.... °F

(4)

Jade uses the **approximate rule** to change a temperature from °C to °F.
The result is 110°F.

(b) What °C temperature did Jade change to °F?

.... °C

(3)
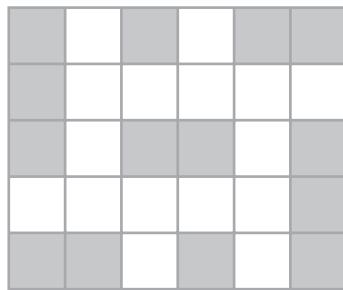
(Total for Question 10 is 7 marks)

11
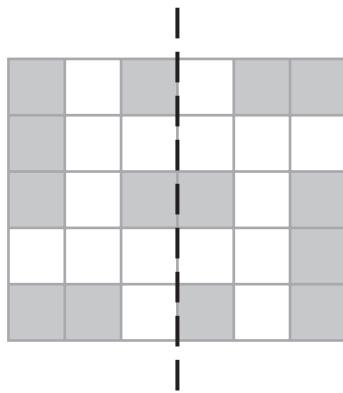
(a) What fraction of this shape is shaded?
   Give your answer in its simplest form.

....

(2)

(b) Write down the order of rotational symmetry of the shape.

....

(1)

(c) On the shape below, shade as few squares as possible so that the dotted line is a line of symmetry.

(2)

(Total for Question 11 is 5 marks)

12 (a) Simplify $a \times c \times 3$

....
(1)

(b) Simplify $p \times p \times p$

....
(1)

(c) Simplify $5x - 4y + 3x - 3y$

....
(2)

(Total for Question 12 is 4 marks)

13 5600 copies of the Village Advertiser are printed each week.

(a) Write the number 5600 in words.

....

(1)

People have to pay to have an advert in the Village Advertiser.

Each advert is in the shape of a rectangle.

The table gives information about the cost of having an advert in the Village Advertiser.

Advert size	Size of rectangle	Cost per week
Size 1	44 mm by 27 mm	£6.50
Size 2	90 mm by 35 mm	£13.50
Size 3	90 mm by 60 mm	£20.00
Size 4	90 mm by 125 mm	£33.00
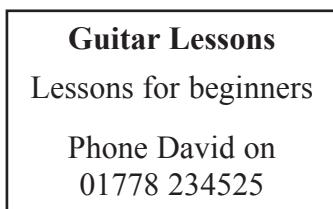
A Size 2 advert is a 90 mm by 35 mm rectangle.

(b) In the space below, draw a 90 mm by 35 mm rectangle.

(2)

David has this advert in the Village Advertiser for **2 weeks**.
The advert is accurately drawn.

<div style="border:1px solid">

Guitar Lessons

Lessons for beginners

Phone David on
01778 234525

</div>

(c) What is the total cost of the advert for 2 weeks?

£......................................

(3)

Raja wants to have a Size 2 advert in the Village Advertiser for 8 weeks.
He has £100 to spend.

(d) Show that Raja does **not** have enough money to pay for the advert for 8 weeks.
You must show all your working.

(2)

(Total for Question 13 is 8 marks)

14 A charity made an appeal for money.

The charity put the information shown below on a poster.

Hunger appeal

- £3 will buy 5 meals for one person.

- £100 will buy lunches for 80 school children for 5 days.

£3 will buy 5 meals for one person.

(a) Work out the cost of one of the meals.
    Give your answer in pence.

.... p

(2)

£100 will buy lunches for 80 school children for 5 days.

(b) Work out the cost of buying lunch for one school child for one day.

....

(3)

(Total for Question 14 is 5 marks)

15

5 cm   matchbox   2 cm
     8 cm

Diagram **NOT** accurately drawn

carton   20 cm
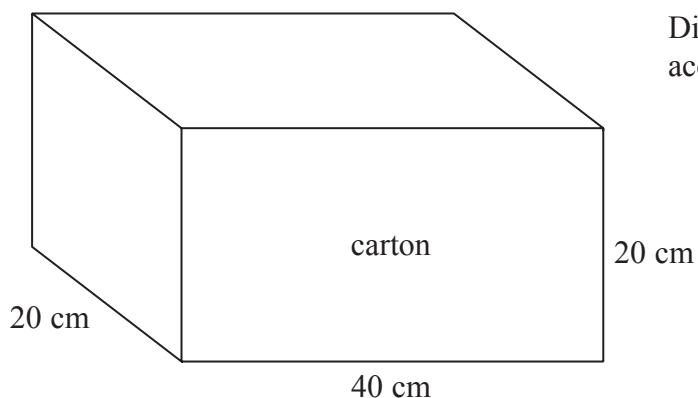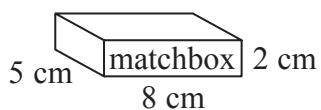
20 cm

40 cm

A matchbox is 5 cm by 8 cm by 2 cm.
A carton is 20 cm by 40 cm by 20 cm.

The carton is completely filled with matchboxes.

Work out the number of matchboxes in the carton.

......................................

(Total for Question 15 is 3 marks)
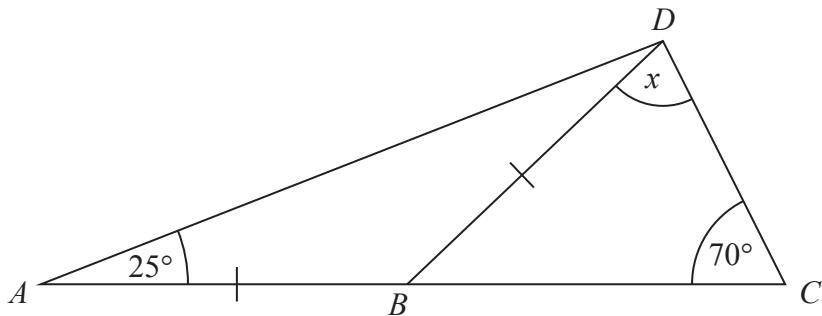
Diagram **NOT**
accurately drawn

ABC is a straight line.
AB = *BD*
Angle *BAD* = 25°
Angle *BCD* = 70°

Work out the size of the angle marked *x*.
Give reasons for your answer.
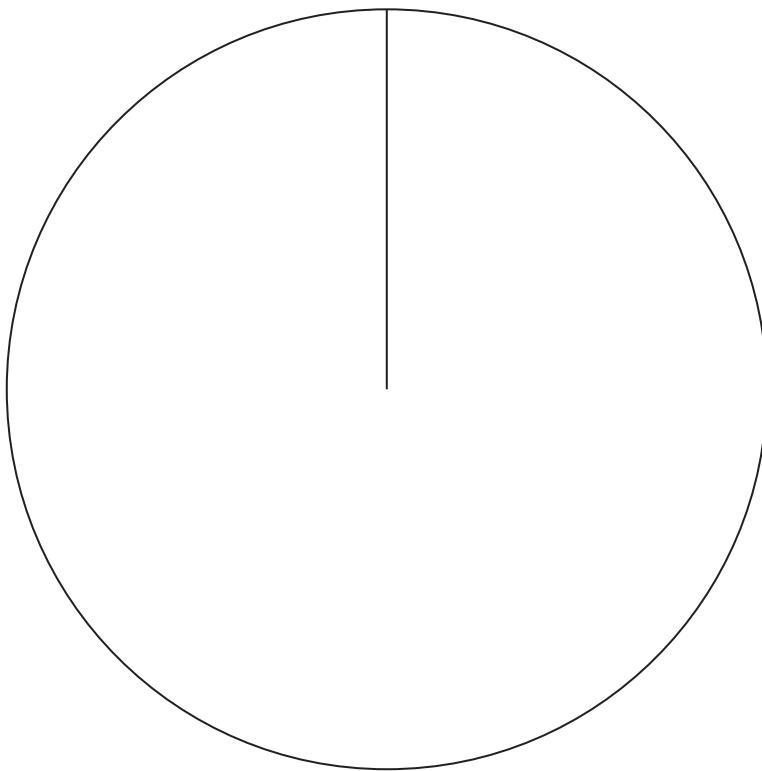
(Total for Question 16 is 4 marks)

17 The table gives information about the results of the matches a football team played.

Result	Frequency	
Won	28	
Drawn	12	
Lost	20	

Draw an accurate pie chart to show this information.

(Total for Question 17 is 4 marks)

P 4 4 0 2 1 A 0 1 9 2 8

18 $x = -5$
$y = 2$

(a) Work out the value of $3x + 4y$

....
(2)

Janet buys p packets of sweets.
There are 10 sweets in each packet.

(b) (i) Write down an expression, in terms of p, for the total number of sweets Janet buys.

....

Janet eats 7 of the sweets.

(ii) Write down an expression, in terms of p, for the number of sweets Janet has now.

....
(2)

(Total for Question 18 is 4 marks)

19 Work out $\dfrac{3}{5} - \dfrac{1}{3}$

....

(Total for Question 19 is 2 marks)

20 50 people each did one activity at a sports centre.

Some of the people went swimming.
Some of the people played squash.
The rest of the people used the gym.

21 of the people were female.
6 of the 8 people who played squash were male.
18 of the people used the gym.
9 males went swimming.

Work out the number of females who used the gym.

....

(Total for Question 20 is 4 marks)

21 Mr Brown and his 2 children are going to London by train.

An adult ticket costs £24
A child ticket costs £12

Mr Brown has a Family Railcard.

<div style="border:1px solid">

Family Railcard gives

$\frac{1}{3}$ off adult tickets

60% off child tickets

</div>

Work out the total cost of the tickets when Mr Brown uses his Family Railcard.

£...

(Total for Question 21 is 4 marks)

22 Rebecca wants to find out how many books people buy.
She is going to use a questionnaire.

Design a suitable question for Rebecca to use in her questionnaire.

(Total for Question 22 is 2 marks)

23 (a) Expand $2m(m + 3)$

....
(1)

(b) Factorise fully $3xy^2 - 6xy$

....
(2)
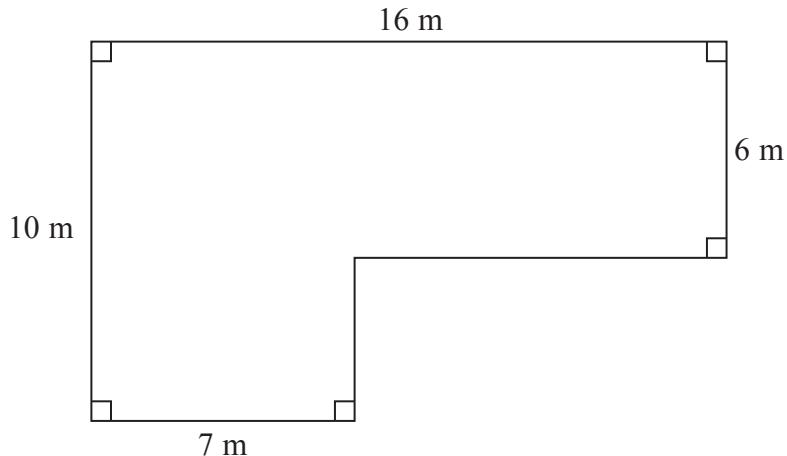
(Total for Question 23 is 3 marks)

***24** The diagram shows the plan of a small field.

16 m

10 m

6 m

7 m

Diagram **NOT** accurately drawn
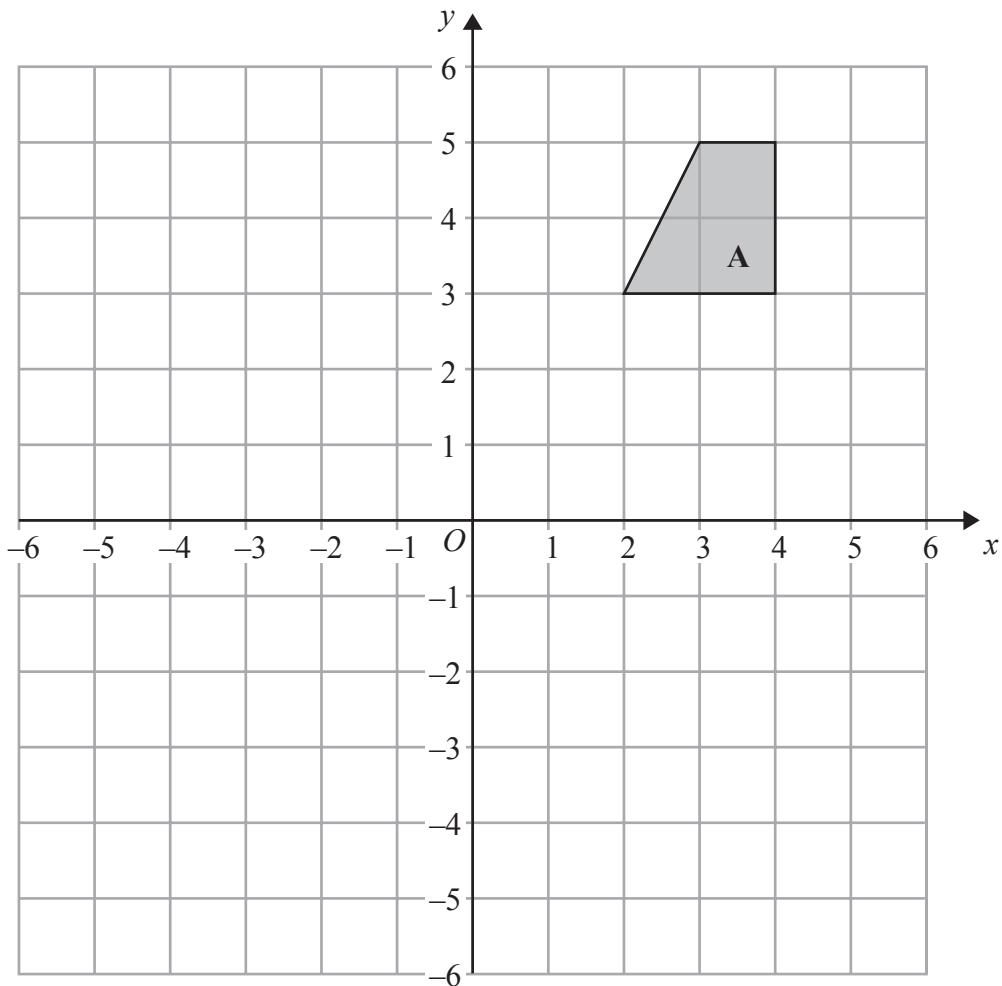
Kevin is going to keep some pigs in the field.
Each pig needs an area of 36 square metres.

Work out the greatest number of pigs Kevin can keep in the field.

(Total for Question 24 is 4 marks)

P44021A02428

25

On the grid, rotate shape **A** 180° about the point (1, 1).

(Total for Question 25 is 2 marks)

Turn over ▶

*26 Milk is sold in two sizes of bottle.

4 pints
£1.18

6 pints
£1.74

A 4 pint bottle of milk costs £1.18
A 6 pint bottle of milk costs £1.74

Which bottle of milk is the best value for money?
You must show all your working.

(Total for Question 26 is 3 marks)

TOTAL FOR PAPER IS 100 MARKS

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