Pearson
Edexcel GCSE

Mathematics A
Paper 1 (Non-Calculator)

Foundation Tier

Thursday 26 May 2016 – Morning
Time: 1 hour 45 minutes

Paper Reference
1MA0/1F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Total Marks

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 ▶

GCSE Mathematics 1MA0

Formulae: Foundation Tier
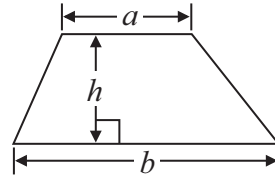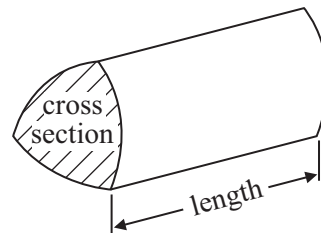
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

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

Volume of prism = area of cross section × length

P49301A0232

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 Jack grows five types of vegetable.

The table shows some information about the vegetables.

Vegetable	Sow seeds	Depth of planting	Harvest
peas	May	5 cm	July
carrots	February	2 cm	May
beans	March	5 cm	July
lettuces	May	1 cm	July
onions	February	1 cm	September

(a) Write down the month when Jack sows seeds for carrots.

....

(1)

(b) Which vegetable does Jack harvest in September?

....

(1)

Jack sows seeds for one type of vegetable in May at a depth of 1 cm.

(c) Which vegetable?

....

(1)

(Total for Question 1 is 3 marks)

2 (a) Write $\frac{1}{2}$ as a decimal.

....
(1)

(b) Write 0.3 as a fraction.

....
(1)

(c) Write 0.8 as a percentage.

....%
(1)

(d) Work out 7.2×8

....
(1)

(e) Work out $\frac{7}{12} - \frac{3}{12}$

Give your answer as a fraction in its simplest form.

....
(2)

(Total for Question 2 is 6 marks)

3 Six shapes are drawn on the grid of squares.
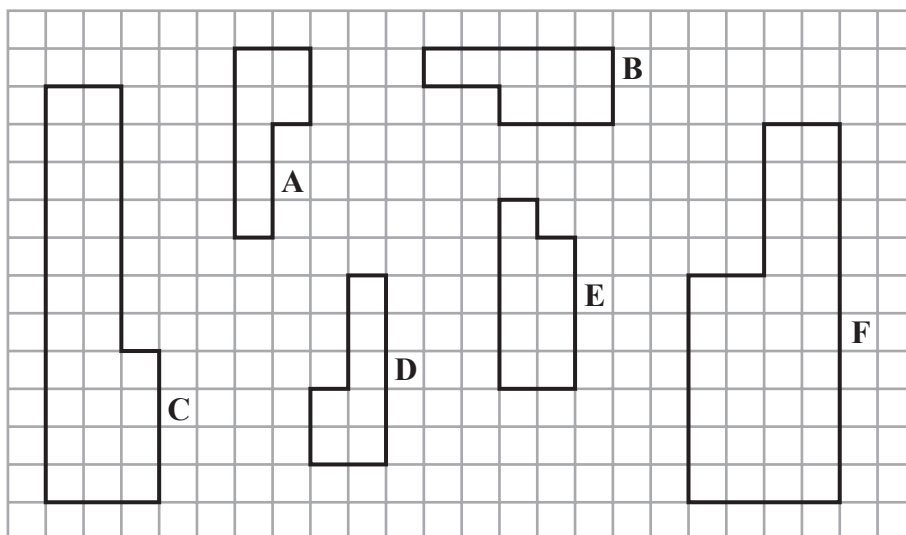
Two of the shapes are congruent.

(a) Write down the letters of these two shapes.

.... and ....

(1)

One of the shapes is similar to shape **F**.

(b) Write down the letter of this shape.

....

(1)

(Total for Question 3 is 2 marks)

4 The table shows the numbers of people, in thousands, visiting five castles in 2009 and in 2010

Castle	Number of people (thousands)	
	2009	**2010**
Bodiam	185	177
Chirk	108	120
Dunster	133	128
Penrhyn	231	230
Scotney	124	118

*(a) Did a greater total number of people visit these castles in 2009 or in 2010?
You must show all your working.

(3)

David wants to visit Dunster castle.
He is going to go from Taunton to Dunster by bus.

Here is part of the bus timetable.

Taunton	07 20	08 42	09 33	11 03
Coombe Florey	07 40	08 58	09 58	11 28
Watchet	08 03	09 21	10 21	11 51
Carhampton	08 16	09 34	10 34	12 04
Dunster	08 18	09 36	10 36	12 06

A bus leaves Taunton at 08 42

(b) (i) What time should this bus get to Dunster?

....

(ii) How many minutes should this bus take to get from Taunton to Dunster?

.... minutes

(2)

Anne lives in Watchet.
She is going to go to Dunster by bus.
She wants to arrive in Dunster by 10 00

(c) Write down the time of the latest bus Anne can get from Watchet.

....

(1)

(Total for Question 4 is 6 marks)

5 There are six counters in a bag.
Three counters are red, two counters are green and one counter is blue.
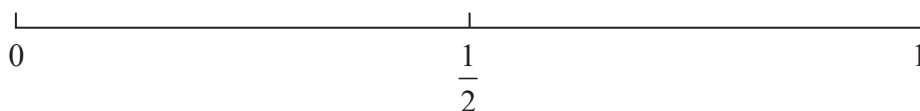
R   R   R   G   G   B

Nick takes at random a counter from the bag.

(a) Circle the word that best describes the likelihood that Nick takes a blue counter.
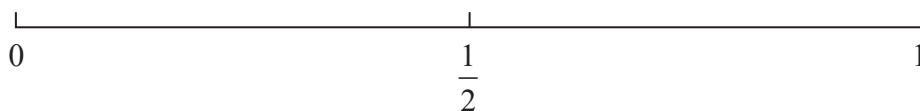
impossible   unlikely   even   likely   certain

(1)

(b) On the probability scale, mark with a cross (✕) the probability that Nick takes a red counter.

0             $\frac{1}{2}$ 1

(1)

(c) On the probability scale, mark with a cross (✕) the probability that Nick takes a white counter.

0             $\frac{1}{2}$ 1

(1)

(Total for Question 5 is 3 marks)

6 Ameeta and some friends want to have a meal in a restaurant.
On Saturday, each meal will cost £21

Ameeta sees this special offer.

> **Special Offer**
>
> Monday to Friday
>
> 2 meals for £32

Ameeta is going to book a table for 6 people.

The total cost of the 6 meals will be less on Wednesday than on Saturday.

(a) How much less?

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

(3)

Ameeta can choose one main course and one dessert.

> **Menu**
>
> **main course**   **dessert**
>   Chicken   Fruit
>   Lamb   Eclair
>   Trifle

(b) Write down all the possible combinations Ameeta can choose.

....

....

....

....

(2)

(Total for Question 6 is 5 marks)

7 Here is a quadrilateral.

(a) Write down the mathematical name of this quadrilateral.

....

(1)

(b) In the space below, sketch a cuboid.

(1)

(Total for Question 7 is 2 marks)

8 (a) Solve $x - 3 = 12$

$x =$ ....
(1)

(b) Solve $5y = 30$

$y =$ ....
(1)

(c) Solve $2w + 7 = 13$

$w =$ ....
(2)

(Total for Question 8 is 4 marks)

*9   Shape **A** and shape **B** are drawn on a centimetre grid.
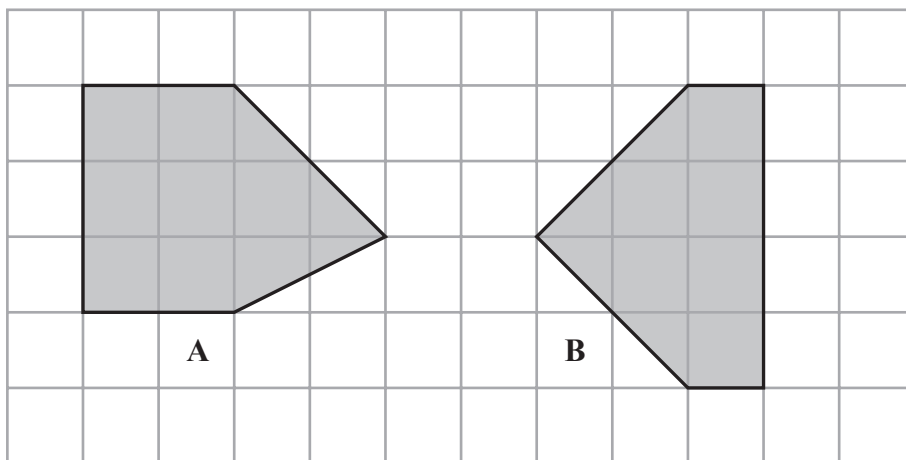
One shape has a greater area than the other.
How much greater?

(Total for Question 9 is 3 marks)

P 4 9 3 0 1 A 0 1 2 3 2

10 Here is a list of numbers.

$$4 \qquad 6 \qquad 8 \qquad 11 \qquad 15 \qquad 33 \qquad 44$$

(a) From the list, write down a factor of 42

....
(1)

(b) From the list, write down a multiple of 22

....
(1)

(c) From the list, write a different number in each box to make the statement true.

$$\boxed{} \div \boxed{} \times \boxed{} = 12$$

(1)

(Total for Question 10 is 3 marks)

11 Amber earns £7 for each hour she works from Monday to Friday.
She earns £10 for each hour she works on Saturday.

One week Amber worked for 4 hours on Saturday.
That week she earned a total of £180

(a) How many hours did Amber work that week?

.... hours

(3)

Chris works for 7 hours each day from Monday to Friday.
He earns *e* pounds for each hour he works.

(b) Write down an expression, in terms of *e*, for the total amount, in pounds, that Chris
earns from Monday to Friday.
Give your answer in its simplest form.

....

(2)

(Total for Question 11 is 5 marks)

12 Jodie buys 12 cans of cola.
There are 330 m*l* of cola in each can.

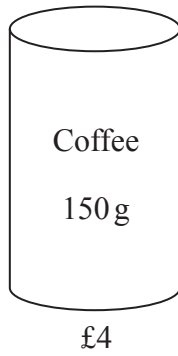Rob buys 4 bottles of cola.
There is 1 litre of cola in each bottle.

Rob buys more cola than Jodie.
How much more?

....

(Total for Question 12 is 3 marks)

13 Adam owns a cafe.

Coffee

150 g

£4

Tea Bags

160 bags

£4.50
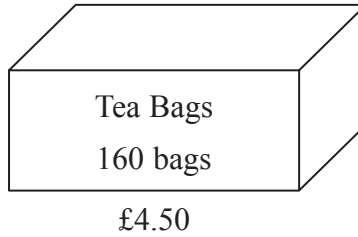
There are 150 grams of coffee in each jar of coffee, costing £4
There are 160 tea bags in each box of tea bags, costing £4.50

Adam uses
         3 grams of coffee to make each cup of coffee
     and 1 tea bag to make each mug of tea.

Adam buys enough jars of coffee to make 300 cups of coffee.
He also buys enough boxes of tea bags to make 500 mugs of tea.

(a) Work out the total cost.

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

(5)

Adam also sells cakes in his cafe.

On Friday afternoon, Adam had **no** cakes to sell.

On Saturday morning, 6 trays of cakes were delivered to the cafe.
There were 30 cakes in each tray.

When the cafe closed on Saturday, 12 of these cakes had **not** been sold.
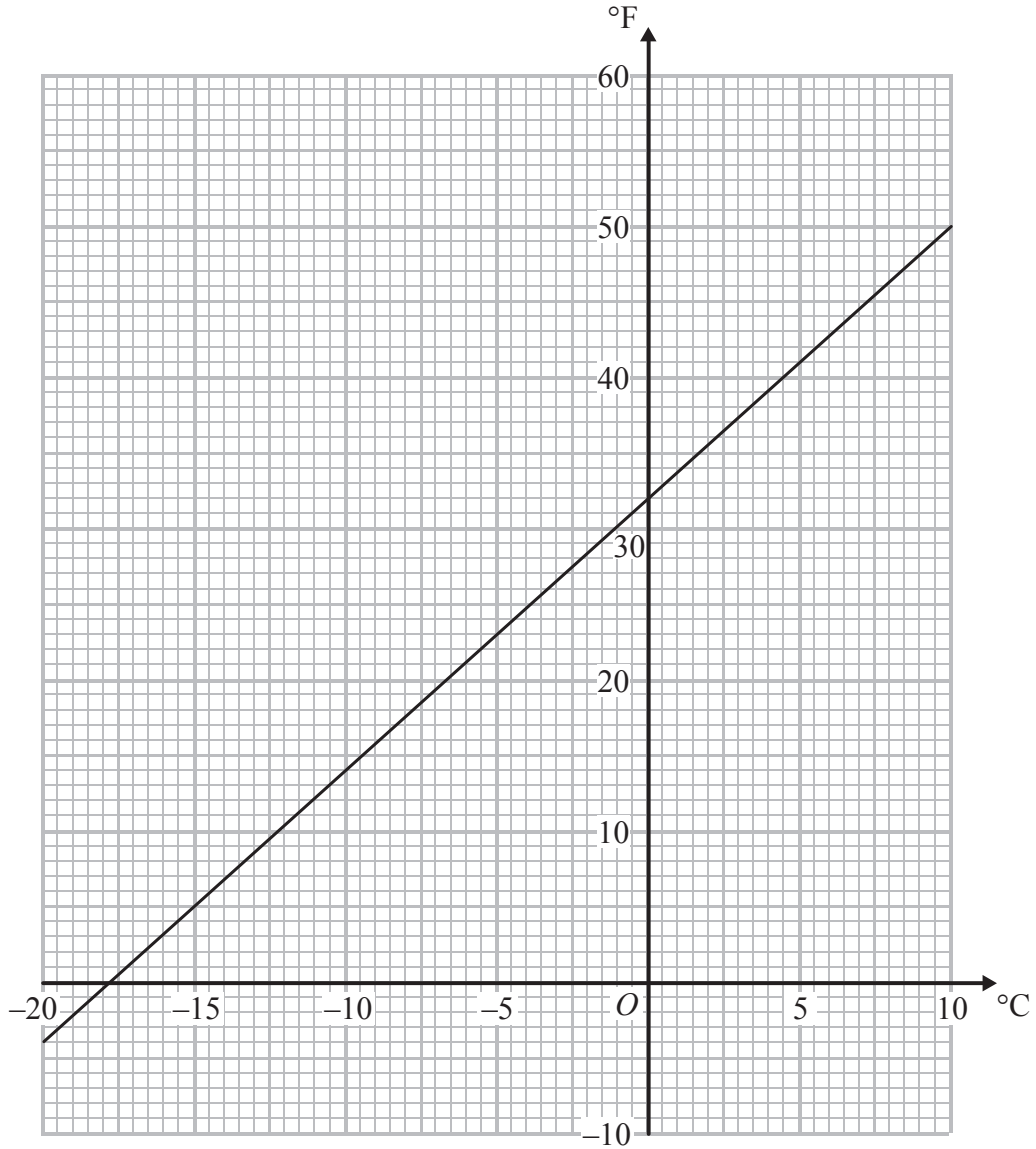
(b) Work out how many cakes were sold on Saturday.

....

(3)

(Total for Question 13 is 8 marks)

Turn over ▶

14 You can use this conversion graph to change between temperatures in degrees Celsius (°C) and temperatures in degrees Fahrenheit (°F).

The temperature inside a refrigerator needs to be 40 °F.

(a) Use the conversion graph to change a temperature of 40 °F into a temperature in °C.

....°C

(1)

The temperature in a freezer needs to be $0\,°F$.

The temperature in Dave's freezer is $-10\,°C$.

*(b) Compare the temperature in Dave's freezer with $0\,°F$.
You must show your working.

(3)

(Total for Question 14 is 4 marks)

15 Colin wants to find out the type of fruit that students at his school like best.

Design a suitable table for a data collection sheet he could use.

(Total for Question 15 is 3 marks)

16 The table gives some information about Charlie's spending last month.

Item	Percentage of total spending
rent	
food	15%
transport	12%
other	43%

(a) Work out what percentage of his total spending was on rent.

....%

(1)

Charlie's total spending last month was £800

(b) How much did Charlie spend on food last month?

£...

(2)

(Total for Question 16 is 3 marks)

17 (a) Complete the table of values for $y = 2x + 3$ for values of x from 0 to 5

x	0	1	2	3	4	5
y		5		9		

(2)

(b) On the grid, draw the graph of $y = 2x + 3$ for values of x from 0 to 5

(2)
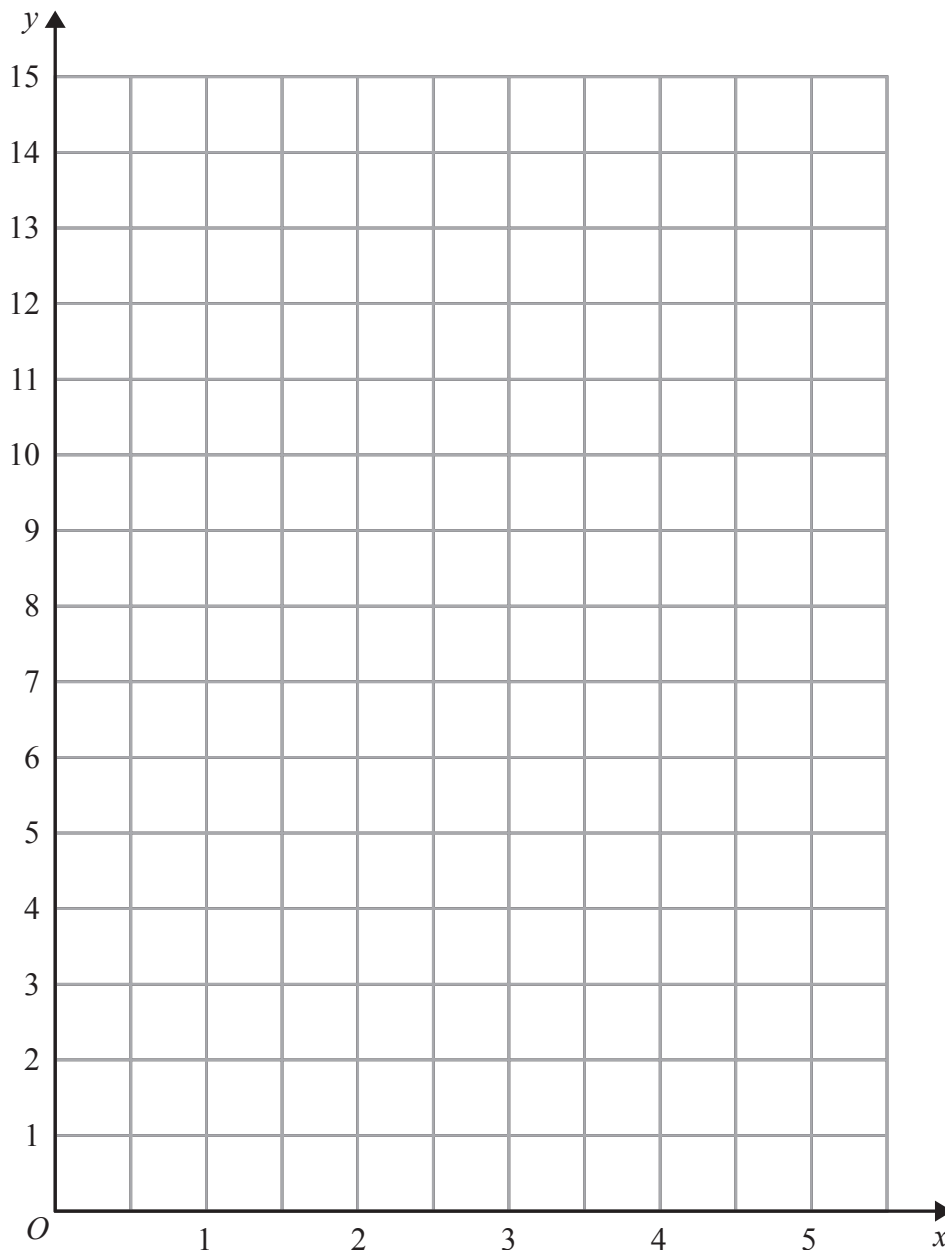
(Total for Question 17 is 4 marks)
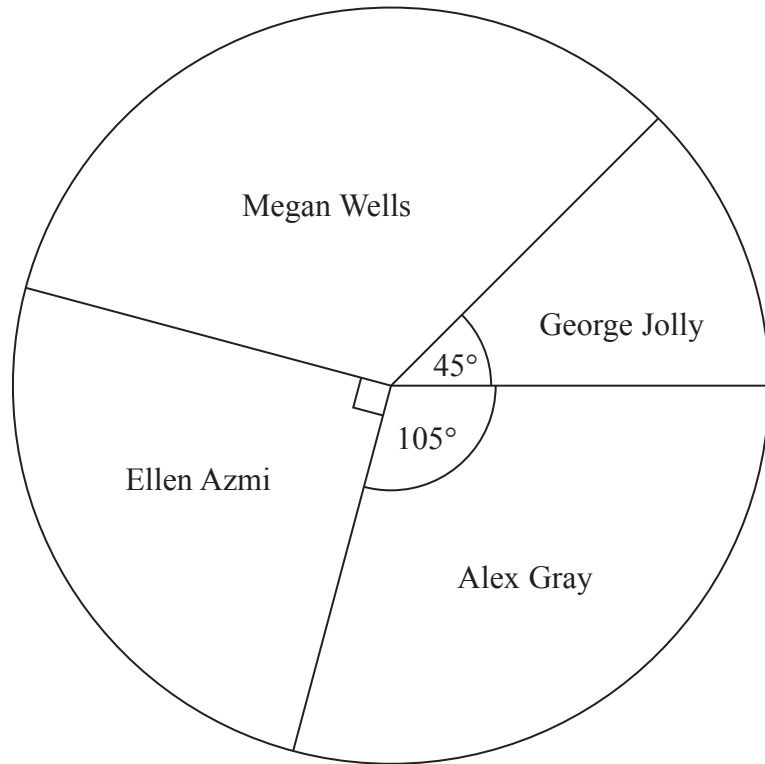
18 The pie chart shows information about the number of votes each of four candidates got in an election.

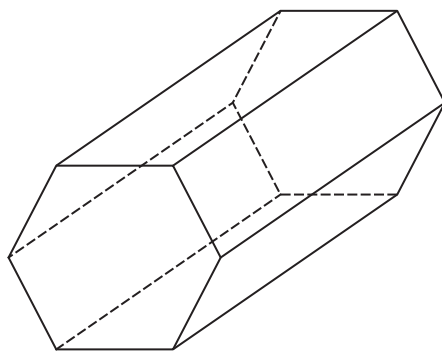(a) What fraction of the votes did Megan Wells get?

....

(2)

Ellen Azmi got 4500 votes.

(b) Work out the total number of votes the four candidates got.

....

(2)

(Total for Question 18 is 4 marks)

19 The diagram shows a prism.

(a) (i) Write down how many vertices the prism has.

....

(ii) Write down how many faces the prism has.

....

(2)

The cross section of the prism is a regular hexagon.

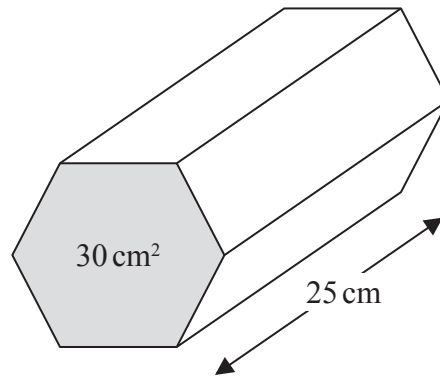(b) In the space below, sketch a net of the prism.

(2)

Diagram **NOT** accurately drawn

30 cm²

25 cm

The area of the cross section of the prism is 30 cm².
The length of the prism is 25 cm.

(c) Work out the volume of the prism.

....

(3)

(Total for Question 19 is 7 marks)

P 4 9 3 0 1 A 0 2 5 3 2

20 (a) Simplify $p^2 \times p^5$

....
(1)

(b) Expand and simplify $3(m + 4) - 2(4m + 1)$

....
(2)

(c) Factorise $n^2 - 7n$

....
(1)

(Total for Question 20 is 4 marks)

21 The diagram shows a **fair** eight-sided spinner.
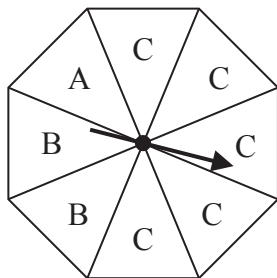
Beth is going to spin the spinner 400 times.

(a) Work out an estimate for the number of times that Beth will get a C.

....

(2)

Carol spins a **different** spinner 80 times.

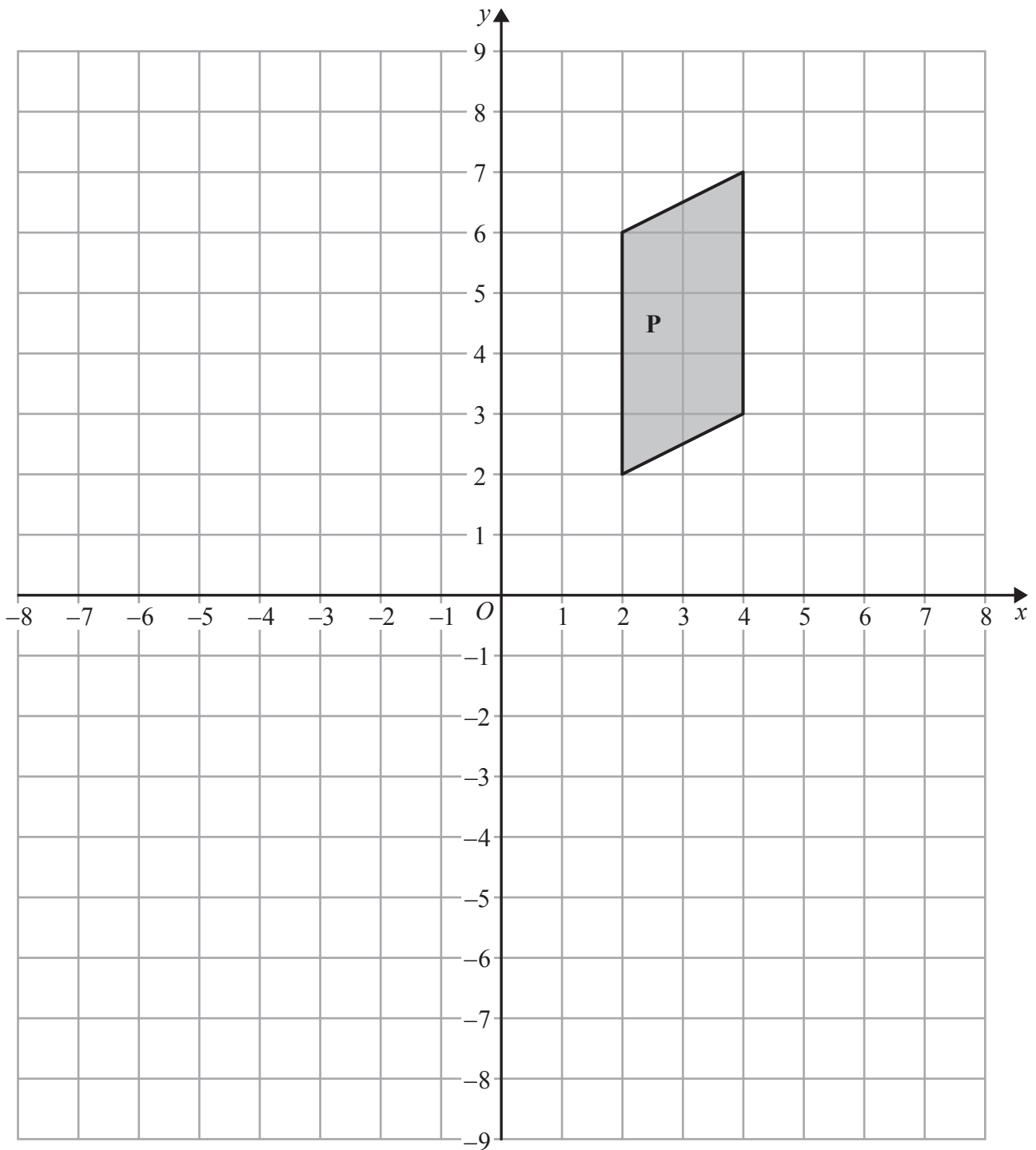The table shows information about her results.

Outcome	Frequency
J	39
K	25
L	16

Dan spins this spinner 300 times.

(b) Work out an estimate for the number of times that Dan will get an L.

....

(3)

(Total for Question 21 is 5 marks)

(a) Reflect shape **P** in the line $x = -1$

(2)
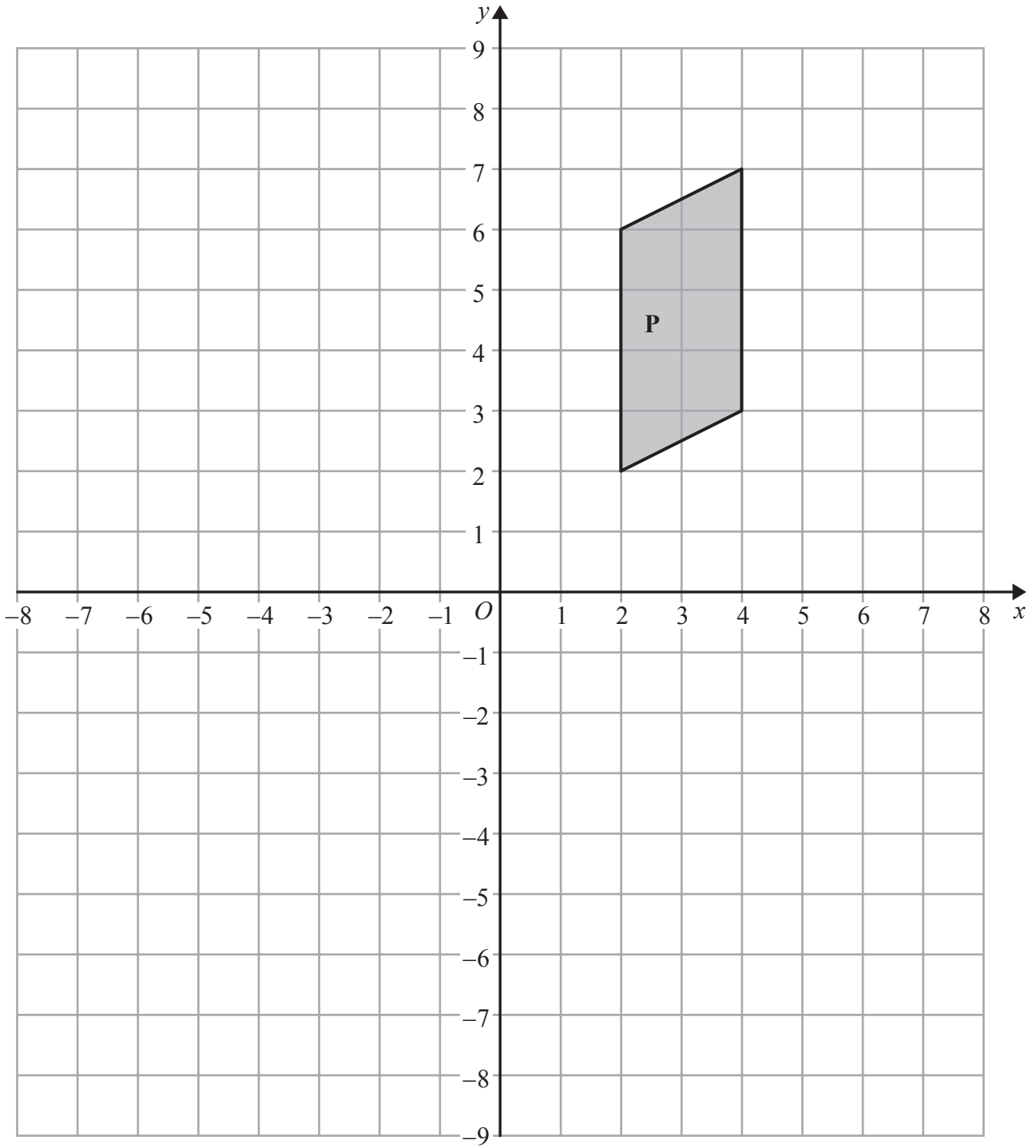
(b) Rotate shape **P** 90° anticlockwise about (0, 1).

(2)

(Total for Question 22 is 4 marks)

23 Richard wants to find out how often people buy crisps.
He uses this question on a questionnaire.

How often do you buy crisps?

Often ☐ Sometimes ☐ Never ☐

(a) Write down **two** things that are wrong with this question.

1 ....

....

2 ....

....

(2)

(b) Design a better question for Richard to use on his questionnaire to find out how often people buy crisps.

(2)

(Total for Question 23 is 4 marks)

*24 The diagram shows the plan of a floor.
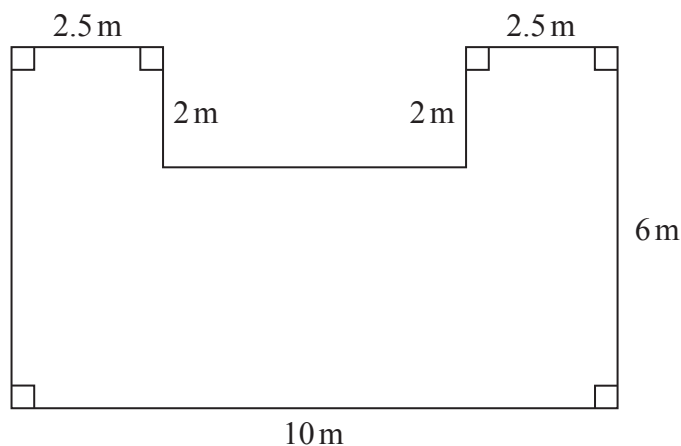
2.5 m   2.5 m

2 m   2 m

Diagram **NOT** accurately drawn

6 m

10 m

Angie is going to varnish the floor.

She needs 1 litre of varnish for 5 m² of floor.
There are 2.5 litres of varnish in each tin of varnish.

Angie has 3 tins of varnish.

Does she have enough varnish for all the floor?
You must show all your working.

(Total for Question 24 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS

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