Write your name here

Surname	Other names

Pearson Edexcel GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics A

Paper 1 (Non-Calculator)

Foundation Tier

Wednesday 4 November 2015 – 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 ▶

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P 4 5 7 7 8 A 0 1 2 4

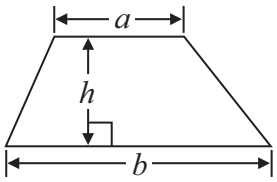
PEARSON

GCSE Mathematics 1MA0

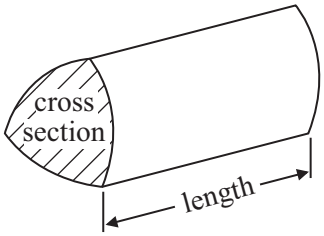
Formulae: Foundation Tier

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



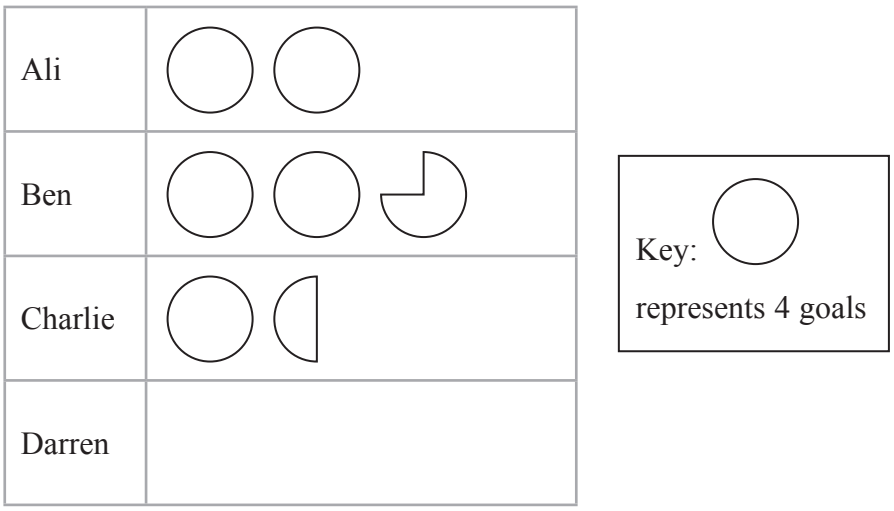
Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1 Here is a pictogram.
It shows the number of goals scored by Ali, by Ben and by Charlie.



(a) Who scored the least number of goals, Ali or Ben or Charlie?

.....

(1)

(b) Write down the number of goals scored by Ali.

.....

(1)

(c) Write down the number of goals scored by Ben.

.....

(1)

Darren scored 10 goals.

(d) Show this information on the pictogram.

(1)

(Total for Question 1 is 4 marks)

2 There are 25 passengers on a bus.
The bus stops at a station.

13 passengers get off the bus.
20 passengers get on the bus.

The bus is full when there are 58 passengers on it.

(a) How many more passengers can get on the bus so that the bus is full?

.....

(3)

The table shows the number of students on a school bus each day for two weeks.

	Mon	**Tue**	**Wed**	**Thu**	**Fri**
Week 1	12	12	17	10	13
Week 2	16	20	13	12	9

There were more students on the school bus in Week 2 than in Week 1.

(b) How many more students?

.....

(3)

(Total for Question 2 is 6 marks)

3 (a) Write the number **7378** to the nearest hundred.

.....

(1)

(b) Write the number **6402** in words.

.....

(1)

(c) Work out 54×1000

.....

(1)

(d) Work out $\frac{1}{4}$ of 28 kg.

..... kg

(1)

(e) Work out $9 + 12 \div 3$

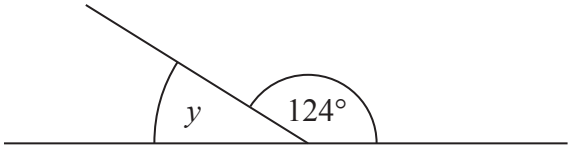
.....

(1)

(Total for Question 3 is 5 marks)

4

Diagram **NOT** accurately drawn



(a) (i) Work out the size of the angle marked y.

.....°

(ii) Give a reason for your answer.

.....

(2)

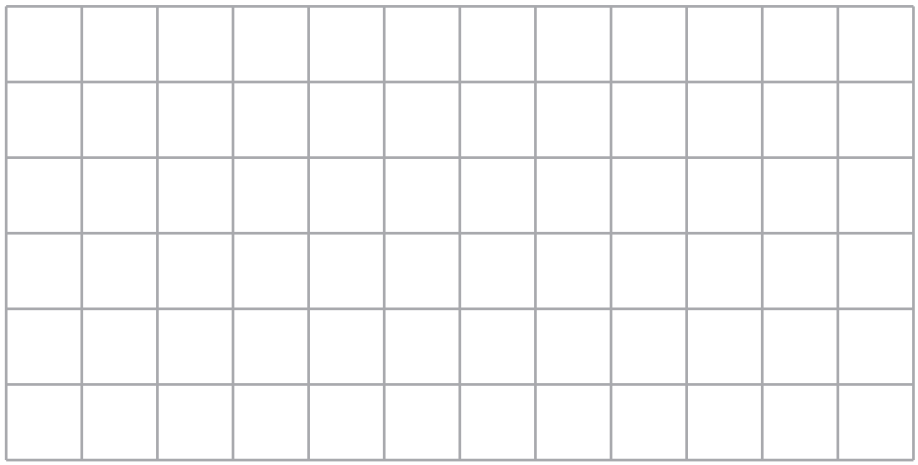
A quadrilateral has four angles.
Each angle is 90°

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

.....

(1)

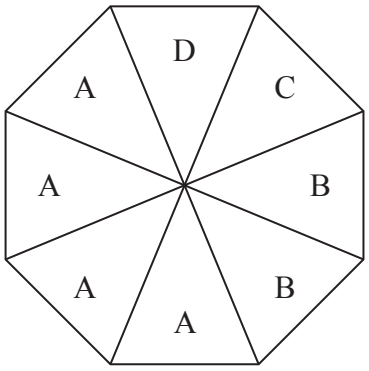
(c) On the grid of centimetre squares, draw a kite.



(1)

(Total for Question 4 is 4 marks)

5 Zak has a fair 8-sided spinner for a game.



Zak is going to spin the spinner once.
The spinner will land on A or on B or on C or on D.

impossible	unlikely	evens	likely	certain

(a) From the list above, write down the word that best describes the likelihood

(i) that the spinner will land on C,

.....

(ii) that the spinner will land on F,

.....

(iii) that the spinner will land on A.

.....

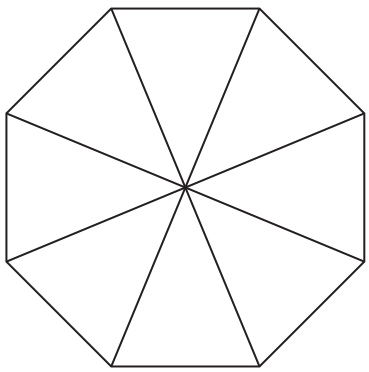
(3)

Jill is making a different fair 8-sided spinner.
She uses the letters J, K, L and M.

The probability that the spinner will land on J
is the same as the probability that it will land on K.

The probability that the spinner will land on L
is twice the probability that it will land on M.

(b) Write the letters on the spinner.



(2)

(Total for Question 5 is 5 marks)

6 A farmer has 37 kg of potatoes.

He puts some of the potatoes into a small sack.
He puts the rest of the potatoes into a large sack.

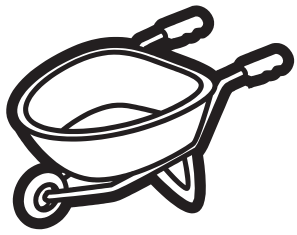
The total weight of the potatoes in the large sack is 13 kg more than the total weight of the potatoes in the small sack.

(a) What is the total weight of the potatoes in the small sack?

..... kg

(2)

There are 30 kg of potatoes in a wheelbarrow.



The farmer puts some carrots into the wheelbarrow.
The total weight of the potatoes and the carrots in the wheelbarrow is 110 pounds.

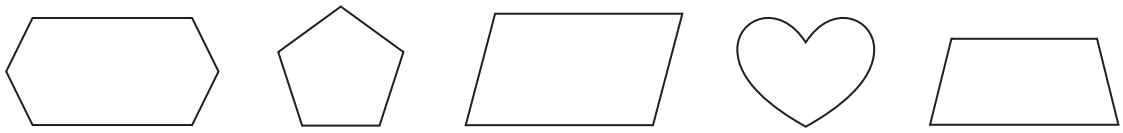
(b) What weight of carrots did the farmer put into the wheelbarrow?
1 kg = 2.2 pounds

.....

(4)

(Total for Question 6 is 6 marks)

7 Here are five shapes.



A B C D E

Shape E is a quadrilateral.

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

.....

(1)

One of these shapes has exactly **two** lines of symmetry.

(b) Write down the letter of this shape.

.....

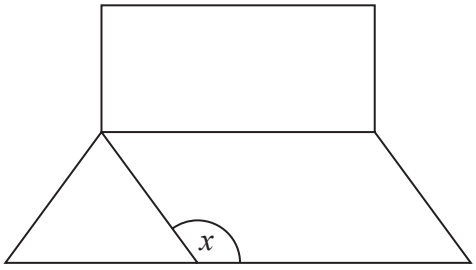
(1)

(c) Write down the order of rotational symmetry of shape B.

.....

(1)

The diagram below shows a rectangle, a parallelogram and a triangle.



(d) Mark with arrows (>>) a pair of parallel lines.

(1)

(e) What type of angle is the angle marked x?

.....

(1)

(Total for Question 7 is 5 marks)

8 The table shows the cost of posting large letters.

Weight range	0 – 100 g	101 g – 250 g	251 g – 500 g	501 g – 750 g
Cost	60 p	85 p	£1.13	£1.59

Sajid posts 8 large letters.
Each letter weighs 50 g.
Sajid pays with a £10 note.

(a) How much change should Sajid get?

£ .....

(3)

Some magazines have to be posted to a shop.

Adam wants to post the magazines as 10 large letters.
Each letter will have a weight of 250 g.

Tina wants to post the magazines as 5 large letters.
Each letter will have a weight of 500 g.

*(b) Who has the cheaper way of posting the magazines?
You must show all your working.

(3)

(Total for Question 8 is 6 marks)

9 There are only black counters, red counters and white counters in a box.
There are only green counters and orange counters in a bag.

One counter is taken from the box.
Then one counter is taken from the bag.

Write down all the possible combinations of colours that can be taken.

.....

.....

.....

(Total for Question 9 is 2 marks)

10 (a) Simplify $t + t + t$

.....

(1)

(b) Simplify $5 \times e \times f$

.....

(1)

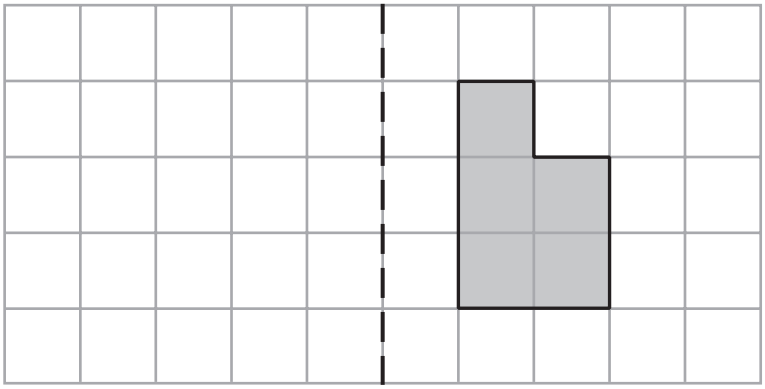
(c) Simplify $3x + 8y + x - 2y$

.....

(2)

(Total for Question 10 is 4 marks)

11 Here is a shaded shape on a grid of centimetre squares.



(a) Find the perimeter of the shaded shape.

..... cm

(1)

(b) Reflect the shaded shape in the mirror line.

(2)

(Total for Question 11 is 3 marks)

12 You can use this rule to work out the total hire charge, in pounds (£), for hiring a satellite phone.

Total hire charge = number of weeks × 90 + 50

Ismail wants to hire a satellite phone for 4 weeks.

(a) Work out the total hire charge.

£ .....

(2)

Dominik hires a satellite phone.
His total hire charge is £860

(b) For how many weeks did he hire the phone?

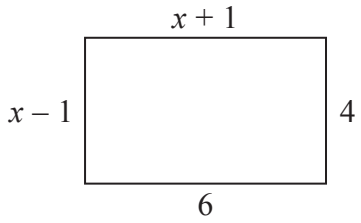
..... weeks

(3)

(Total for Question 12 is 5 marks)

13 Here is a rectangle.

Diagram **NOT** accurately drawn



All measurements on the diagram are in centimetres.

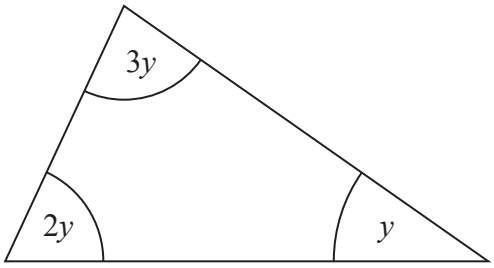
(a) Find the value of x.

.....

(2)

Here is a triangle.

Diagram **NOT** accurately drawn



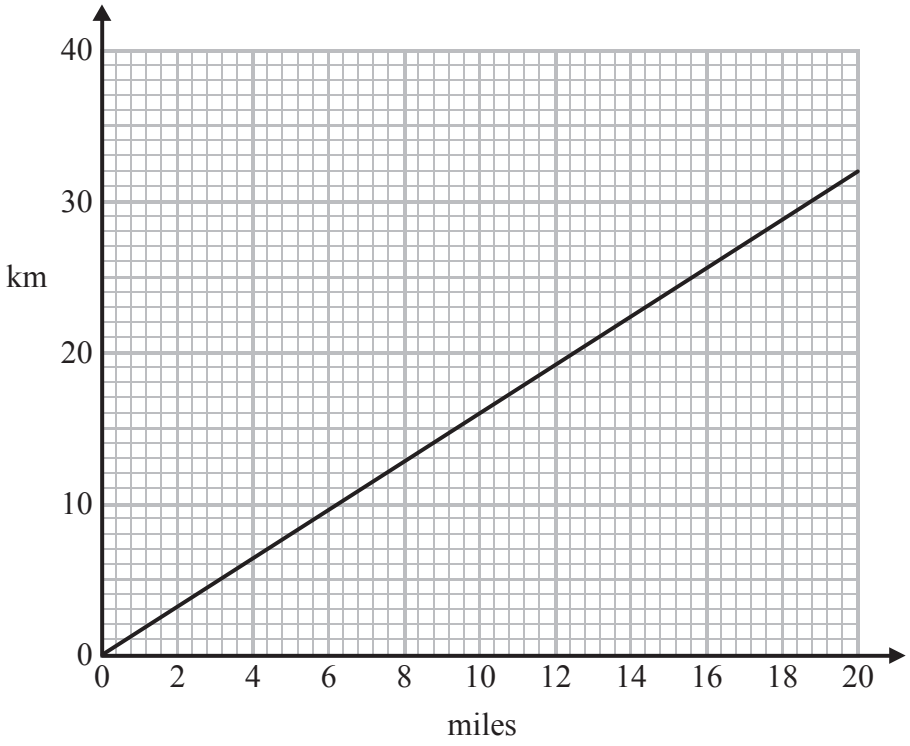
(b) Find the size of the angle marked y.

.....°

(2)

(Total for Question 13 is 4 marks)

14 You can use this graph to change between km and miles.



(a) Change 18 miles to km.

..... km

(1)

(b) Change 13 km to miles.

..... miles

(1)

Chris drives 250 km.
He then drives 100 miles.

(c) Work out, in miles, the total distance Chris drives.

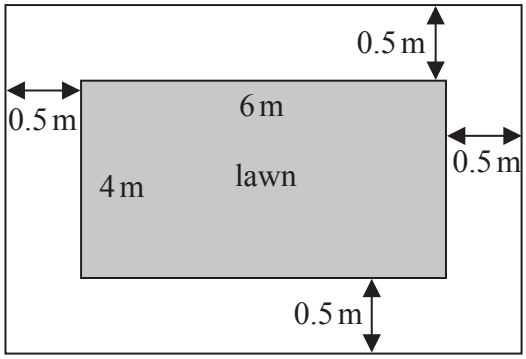
..... miles

(3)

(Total for Question 14 is 5 marks)

***15** Here is a diagram of a garden.

Diagram **NOT** accurately drawn



The lawn is a 6 m by 4 m rectangle.
Sabia is going to put a path all the way around the lawn.
The path will be 0.5 m wide.

Sabia is going to use paving stones to make the path.
Each paving stone is a 0.5 m by 0.5 m square.
She has 35 paving stones.

Has Sabia got enough paving stones?
You must show all your working.

(Total for Question 15 is 4 marks)

16 Here is a quadrilateral.

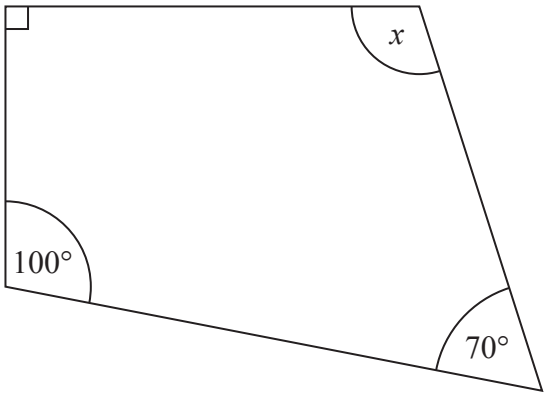


Diagram **NOT** accurately drawn

*(a) Explain why the angle marked x **cannot** be a right angle.

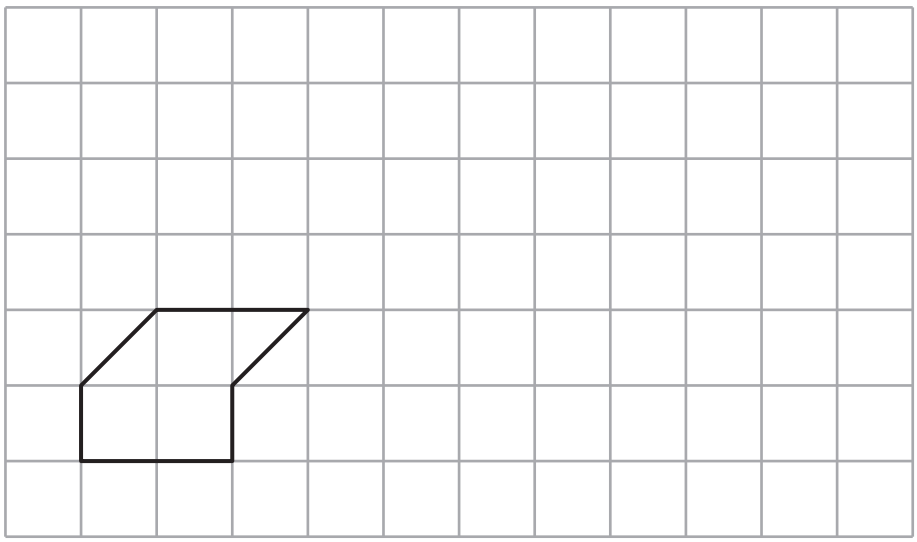
.....

.....

.....

(3)

(b) On the grid below, show how the shape tessellates.
You should draw at least **6** shapes.



(2)

(Total for Question 16 is 5 marks)

17 Sean wants to go on holiday.
He is going to get a loan of £720 to help pay for the holiday.

Sean will have to pay back the £720 plus interest of 15%.
He will pay this back in 12 equal monthly installments.

How much money will Sean pay back each month?

£ .....

(Total for Question 17 is 4 marks)

18 Here are the first four terms of an arithmetic sequence.

11 17 23 29

(a) Find, in terms of n, an expression for the nth term of this arithmetic sequence.

.....

(2)

(b) Is 121 a term of this arithmetic sequence?
You must explain your answer.

.....

.....

.....

(2)

(Total for Question 18 is 4 marks)

19 Here are the ingredients needed to make **8** shortbread biscuits.

Shortbread biscuits makes **8** biscuits
120 g butter 60 g caster sugar 180 g flour

Tariq is going to make some shortbread biscuits.
He has the following ingredients

330 g butter 200 g caster sugar 450 g flour

Work out the greatest number of shortbread biscuits that Tariq can make with his ingredients.
You must show all your working.

..... biscuits

(Total for Question 19 is 3 marks)

***20**

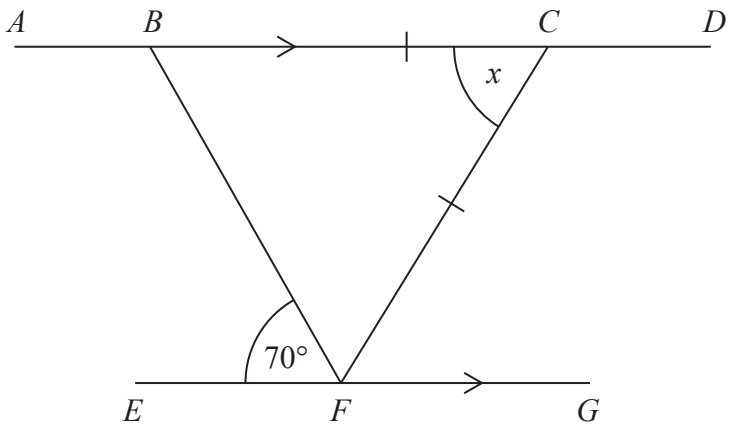


Diagram **NOT** accurately drawn

ABCD and *EFG* are parallel lines.
BC = *CF*
Angle *BFE* = 70°

Work out the size of the angle marked *x*.
Give reasons for each stage of your working.

(Total for Question 20 is 4 marks)

21 Martin wants to find out how often students use the local tram service.
He uses this question on a questionnaire.

How often do you use the local tram service?

☐ a little ☐ sometimes ☐ a lot

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

1 .....

.....

2 .....

.....

(2)

(b) Design a better question for a questionnaire for Martin to find out how often students use the local tram service.

(2)

(Total for Question 21 is 4 marks)

22 Milk is sold in $\frac{1}{2}$ pint bottles, in 1 pint bottles and in 2 pint bottles.

One weekend a shop sold 100 bottles of milk.

46 of the bottles were sold on Sunday.
15 of the bottles sold on Sunday were 2 pint bottles.

31 of the bottles sold on Saturday were $\frac{1}{2}$ pint bottles.

22 of the bottles sold were 2 pint bottles.
30 of the bottles sold were 1 pint bottles.

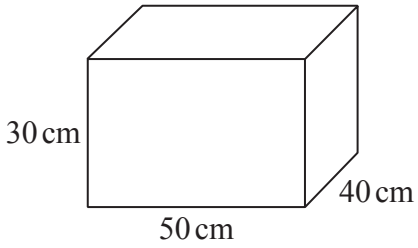
How many 1 pint bottles were sold on Sunday?

.....

(Total for Question 22 is 4 marks)

***23** The diagram shows a container for oil.
The container is in the shape of a cuboid.
The container is empty.

Diagram **NOT** accurately drawn



Sally has to fill the container with oil.
A bottle of oil costs £3.50
There are 3000 cm^3 of oil in each bottle.

Sally must **not** spend more than £60 buying the oil.

Can Sally buy enough oil to fill the container?
You must show all your working.

(Total for Question 23 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS

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