

Please write clearly in block capitals.

Centre number

Candidate number

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

Functional Skills Level 2 MATHEMATICS

Paper 2 Calculator

Monday 15 May 2023

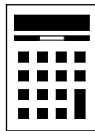
Afternoon

Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- a calculator
- mathematical instruments.



Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- 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.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.
- State the units of your answer where appropriate.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 60.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.
- If your calculator does not have a π button, take the value of π to be 3.142

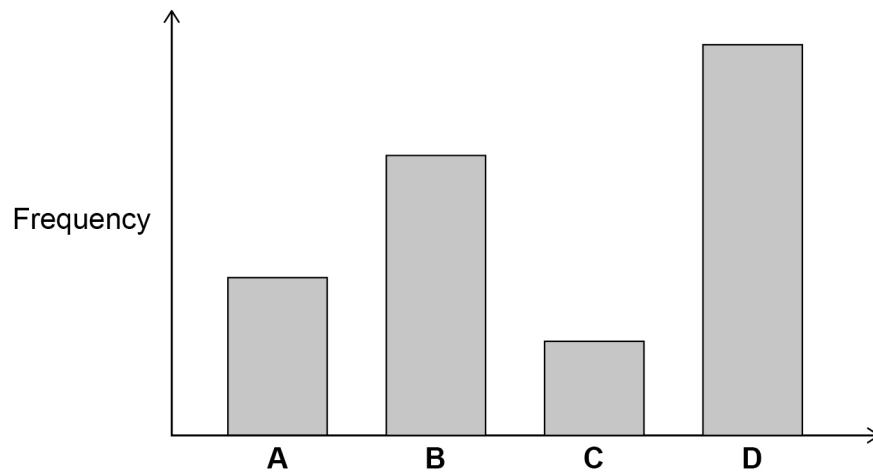
Advice

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

For Examiner's Use	
Question	Mark
1–6	
7	
8	
9	
10	
TOTAL	



J U N 2 3 8 3 6 2 2 0 1

Section AAnswer **all** questions in the spaces provided.**1**

Circle the letter that is the mode.

[1 mark]

A

B

C

D

2Write these numbers in order, starting with the **smallest**.

0.84

0.804

0.847

0.8074

[2 marks]

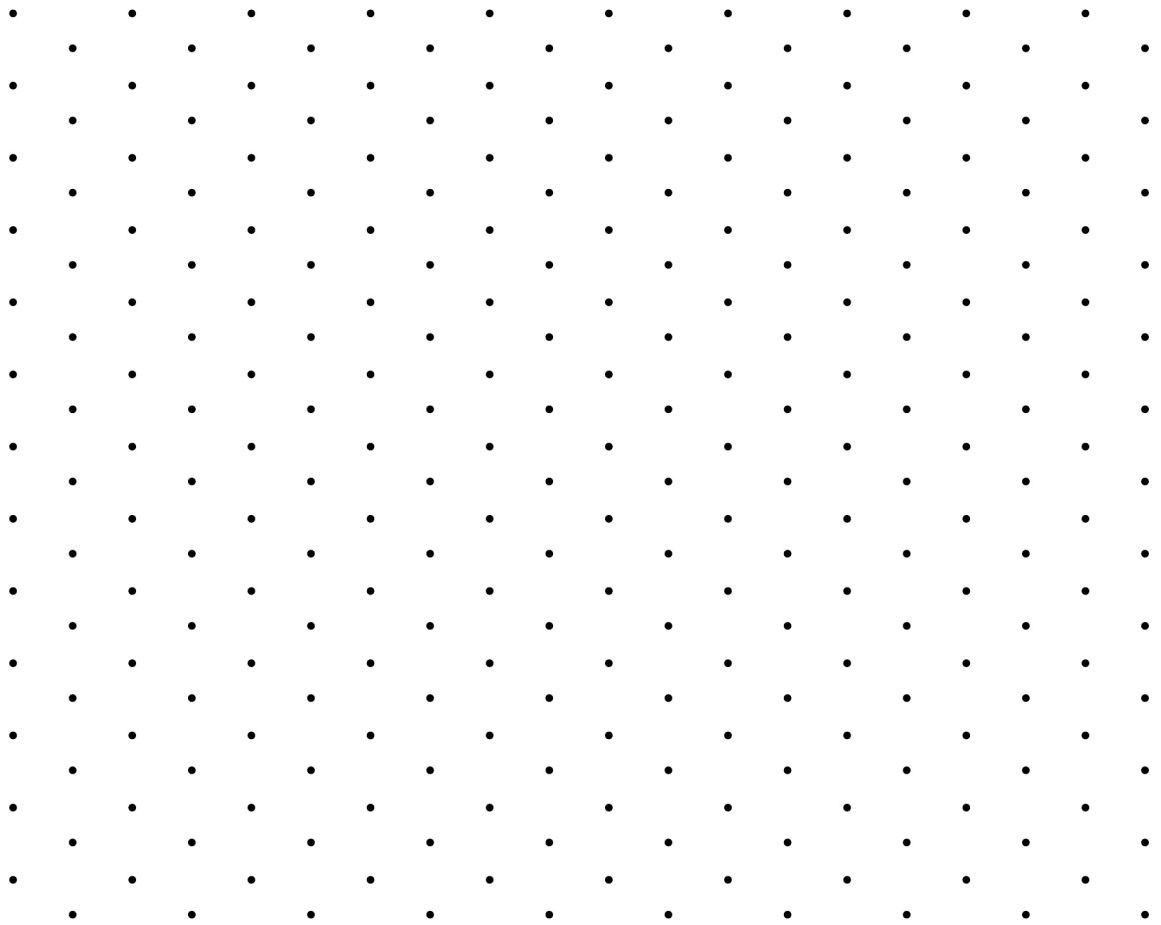
Answer _____ , _____ , _____ , _____



3 A cuboid has dimensions 2 cm by 4 cm by 5 cm

Use the centimetre isometric paper to draw a 3-D diagram of the cuboid.

[2 marks]



4 Write 6% as a decimal and as a fraction.

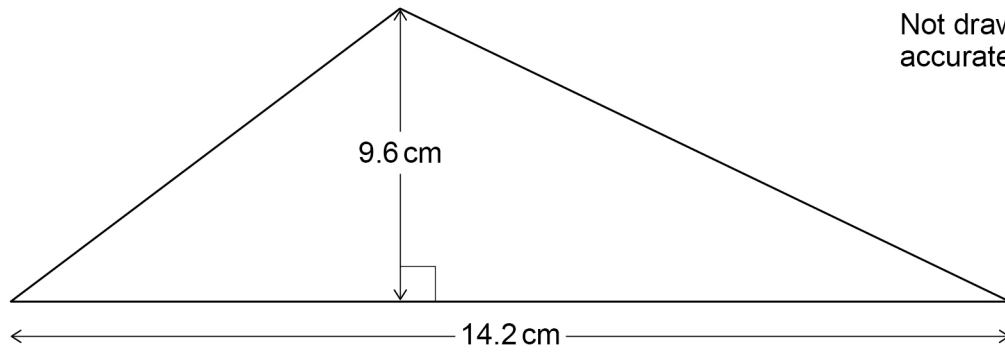
[2 marks]

Decimal _____ Fraction _____

Turn over ►



5

Not drawn
accurately

Work out the area of the triangle.

[2 marks]

Answer _____ cm²

6

Use **approximations** to estimate $597 - (61 - 38)^2$ Do **not** calculate the exact answer.You **must** show your working.

[3 marks]

Answer _____

Do not write
outside the
box

Section BAnswer **all** questions in the spaces provided.**7 Garden****7 (a)** Oskar is going to have a barbecue in his garden.

He will buy packs of beef burgers and packs of veggie burgers.

Here are the prices.

Beef Burgers

Pack of 15

£11.23

Veggie Burgers

Pack of 2

£1.30

Oskar needs 55 burgers in the ratio beef : veggie = 9 : 2

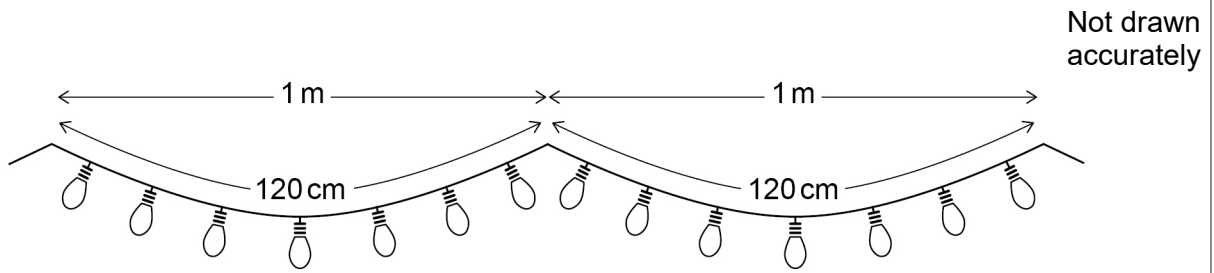
How much will Oskar spend to buy the packs he needs?

[5 marks]

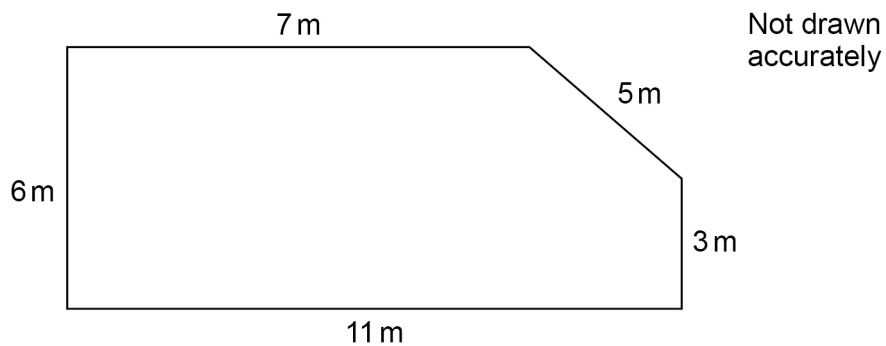
Answer £ _____

Question 7 continues on the next page**Turn over ►**

- 7 (b)** Oskar wants to put fairy lights all around his garden.
He will use 120 cm of wire and 7 light bulbs for each metre of fence or wall.



Here is a sketch of the plan of Oskar's garden.



Work out the total length of wire in metres and the total number of light bulbs that Oskar needs.

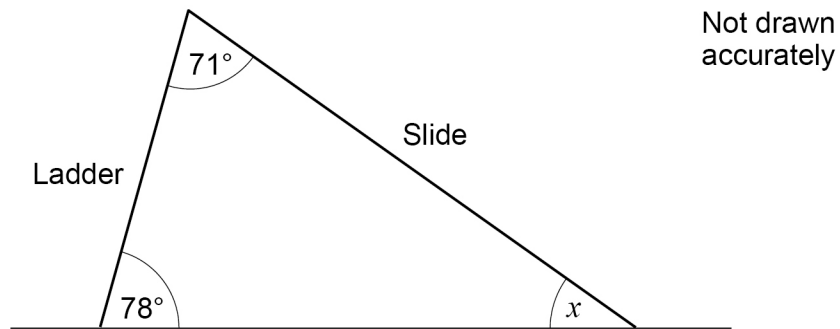
[4 marks]

Wire _____ metres

Light bulbs _____



- 7 (c) Oskar wants to buy a garden slide for his children.
He sees this sketch of a slide showing two of the angles.



For the slide to be suitable for children, angle x should be between 28° and 32°

Is the slide suitable for children?

You **must** show your working.

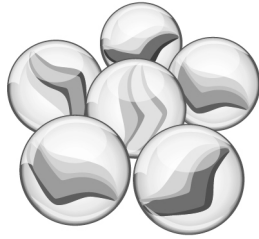
[2 marks]

11

Turn over for the next question

Turn over ►



8 Toys**8 (a)** Rosie sells glass marbles.

$$\text{Volume of a sphere} = \frac{4}{3} \pi r^3$$

Each marble is a sphere with radius 0.8 cm

The density of the glass is 2.6 g/cm³

The delivery company Rosie uses has a maximum weight of 1400 g per parcel.

Can she send 270 marbles in one parcel?

You **must** show your working.

[4 marks]



8 (c) Chris sees an advert for a child’s bike.



SALE
Reduced by
25%
Now only £99

Chris says,

“The original price of the bike was **more than £130**”

Is he correct?

You **must** show your working.

[3 marks]

12

9 Wedding meal

Jess organises wedding meals.

9 (a) Jess offers the following items.

Place names	£2.40 per person
Chair decorations	£1.75 per person
Tablecloths	£12 per table
Flowers (small)	£22.50 per table
Flowers (large)	£36 per table

A customer places an order for

- place names for 72 people
- flowers (small) for 9 tables.

The customer pays $\frac{1}{3}$ of the cost of these items in advance.

Work out the amount the customer has left to pay.

[5 marks]

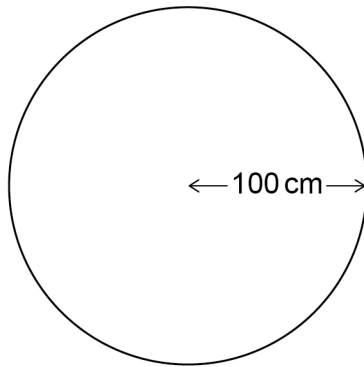
Answer £ _____

Turn over ►



9 (b) Jess has two different shaped tables to choose from.

Table A

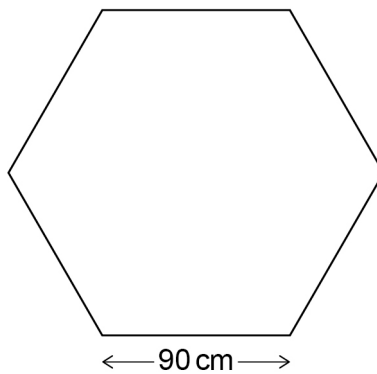


Not drawn
accurately

Table A

- has a top which is a circle with radius 100 cm
- sits **8 people**.

Table B



Not drawn
accurately

$$\text{Area of a regular hexagon} = \frac{3\sqrt{3}}{2} \times (\text{side length})^2$$

Table B

- has a top which is a regular hexagon with side length 90 cm
- sits **6 people**.



*Do not write
outside the
box*

Which table top has the larger area **per person**, **A** or **B**?

You **must** show your working.

[6 marks]

Answer _____

11

Turn over for the next question

Turn over ►



10 Holiday park

Pete is the manager at a holiday park.

10 (a) The holiday park rents out caravans.

Pete records this information about the caravan bookings **this week**.

Number of guests per caravan	Number of caravans booked	Midpoint	
1 to 3	29		
4 to 6	35		
7 to 9	11		
Total = 75			

The estimated mean number of guests per caravan **last week** was 5.2

He says,

“The estimated mean number of guests per caravan is **more** this week than last week.”

Is he correct?

You **must** show your working.

[4 marks]



10 (b) There is a restaurant at the holiday park.

All guests at the restaurant have a main meal.

They can also order a starter or a pudding or both.

The table shows information about the guests' orders at the restaurant one day.

	Starter	No starter
Pudding	46	65
No pudding	20	19

One of these guests is chosen at random.

Show that the probability that they ordered a pudding but no starter is **more than** 0.4

[3 marks]

Question 10 continues on the next page

Turn over ►



10 (c) The restaurant staff get a pay rise.

Cooks salary increases from £25 300 to £26 059

Waiters salary increases from £18 600 to £19 344

Who has the bigger **percentage** increase in their salaries, cooks or waiters?

You **must** show your working.

[4 marks]

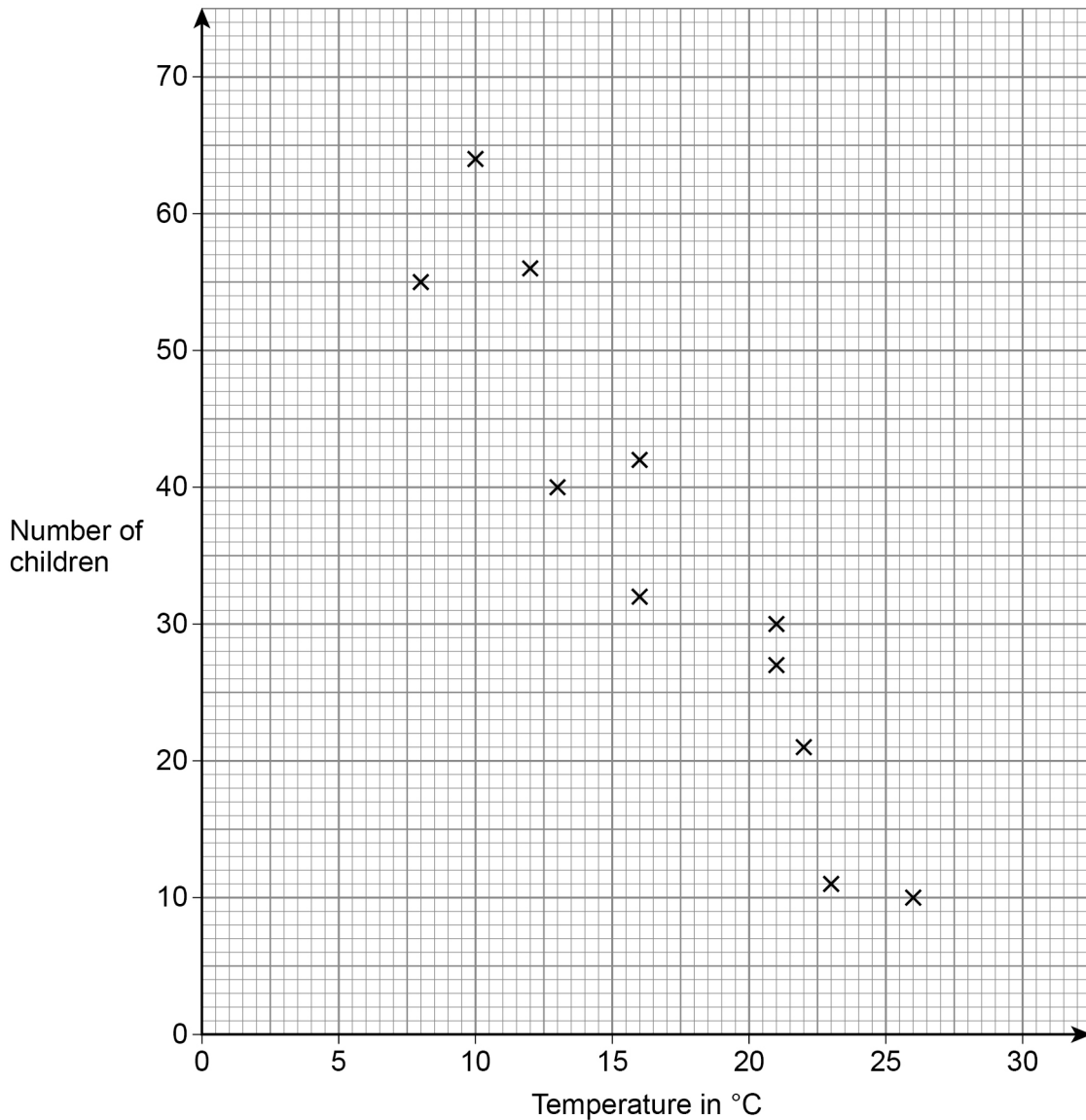
Answer _____



10 (d) There is an indoor play area at the holiday park.

On 11 days, the outside temperature and the number of children who used the play area were recorded.

The scatter graph represents the results.



Use the scatter graph to estimate the number of children who will use the play area when the temperature is 18°C.

You **must** show your working which should be on the graph.

[3 marks]

Answer _____

14

END OF QUESTIONS



There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED**



