

A



Surname \_\_\_\_\_

Forename(s) \_\_\_\_\_

Centre Number \_\_\_\_\_

Candidate Number \_\_\_\_\_

Candidate Signature \_\_\_\_\_

I declare this is my own work.

## Functional Skills Level 2

# MATHEMATICS

Paper 2 Calculator

**8362/2**

**Monday 15 May 2023      Afternoon**

**Time allowed: 1 hour 30 minutes**

**At the top of the page, write your surname and forename(s), your centre number, your candidate number and add your signature.**

**[Turn over]**

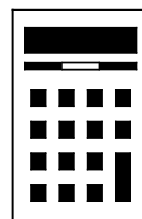


J U N 2 3 8 3 6 2 2 0 1

## 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 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  $\pi$  button, take the value of  $\pi$  to be 3.142**

## **ADVICE**

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

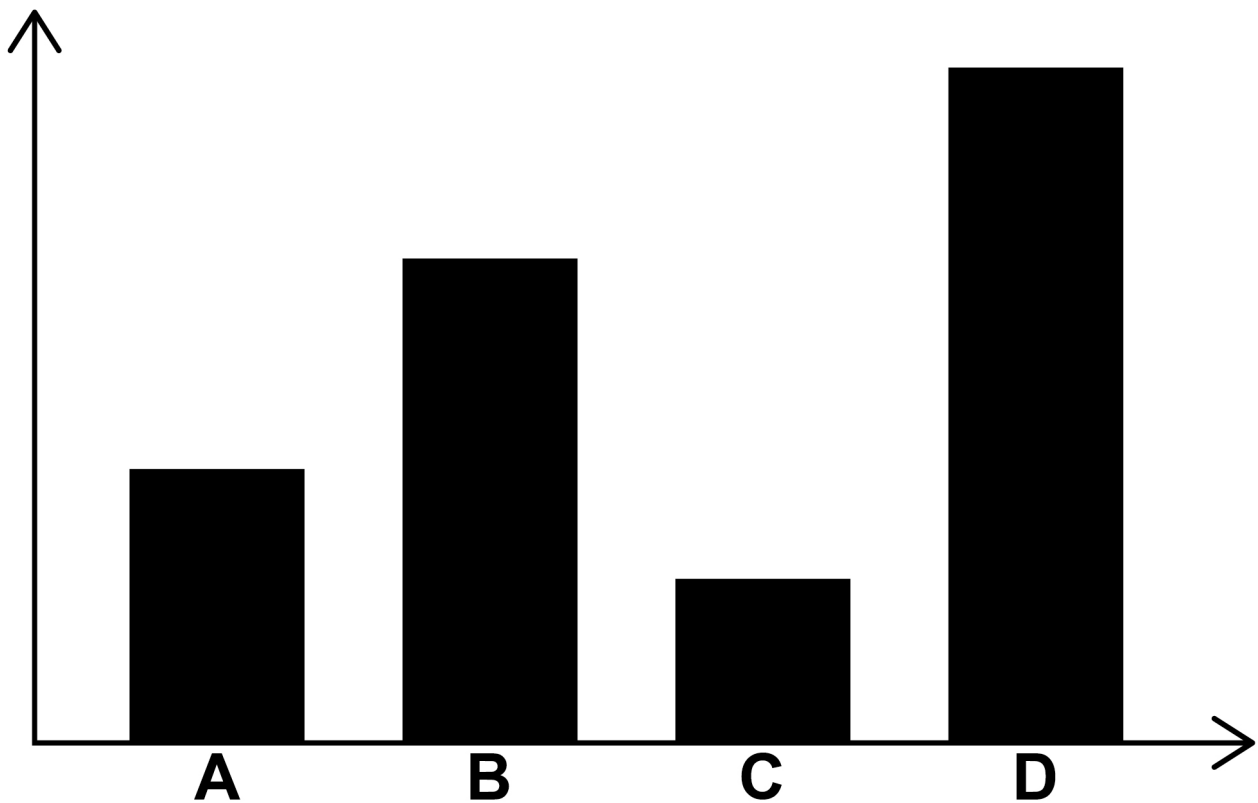
**DO NOT TURN OVER UNTIL TOLD TO DO SO**



**SECTION A**

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

1

**Frequency**

**Circle the letter that is the mode.  
[1 mark]**

**A****B****C****D**

**2 Write these numbers in order, starting with the SMALLEST. [2 marks]**

**0.84****0.804****0.847****0.8074**

**Answer**

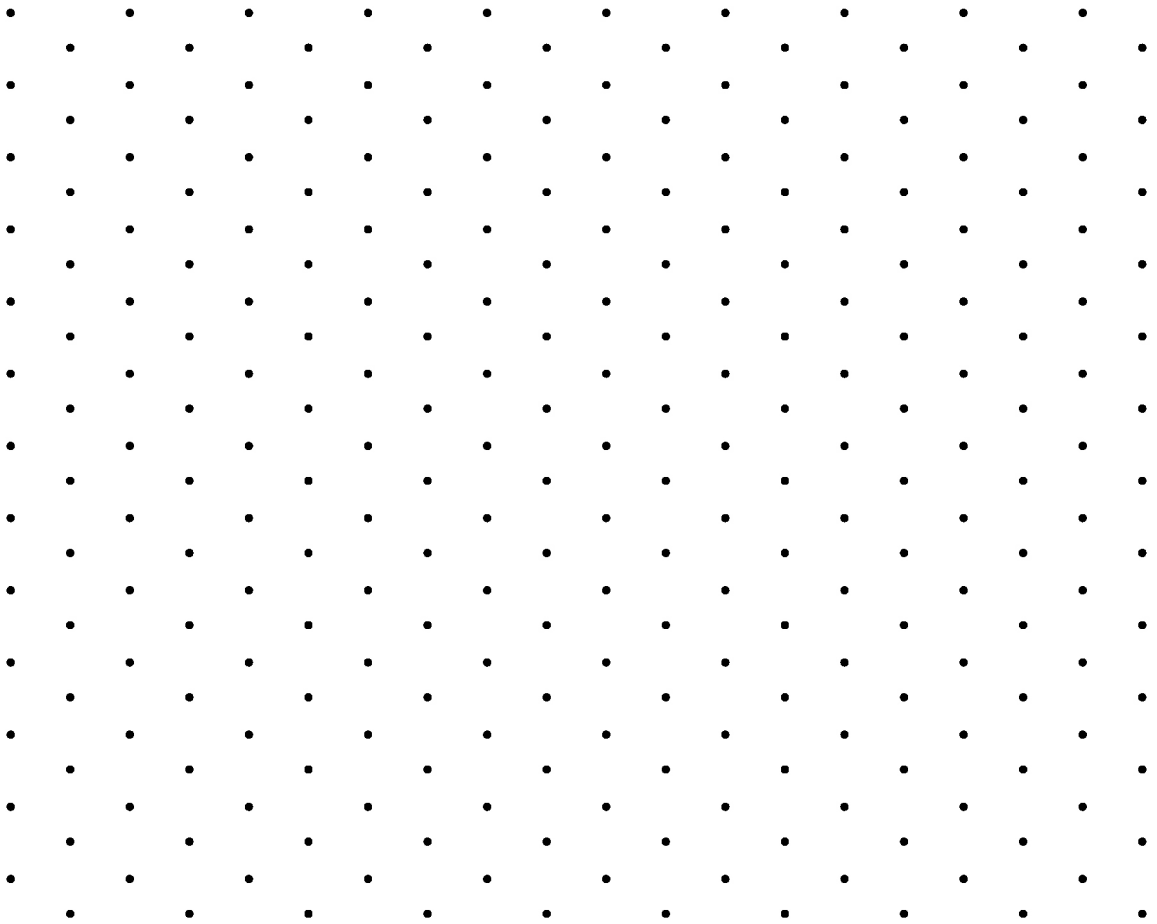
\_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

**[Turn over]**



**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]**

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**Decimal** \_\_\_\_\_

**Fraction** \_\_\_\_\_

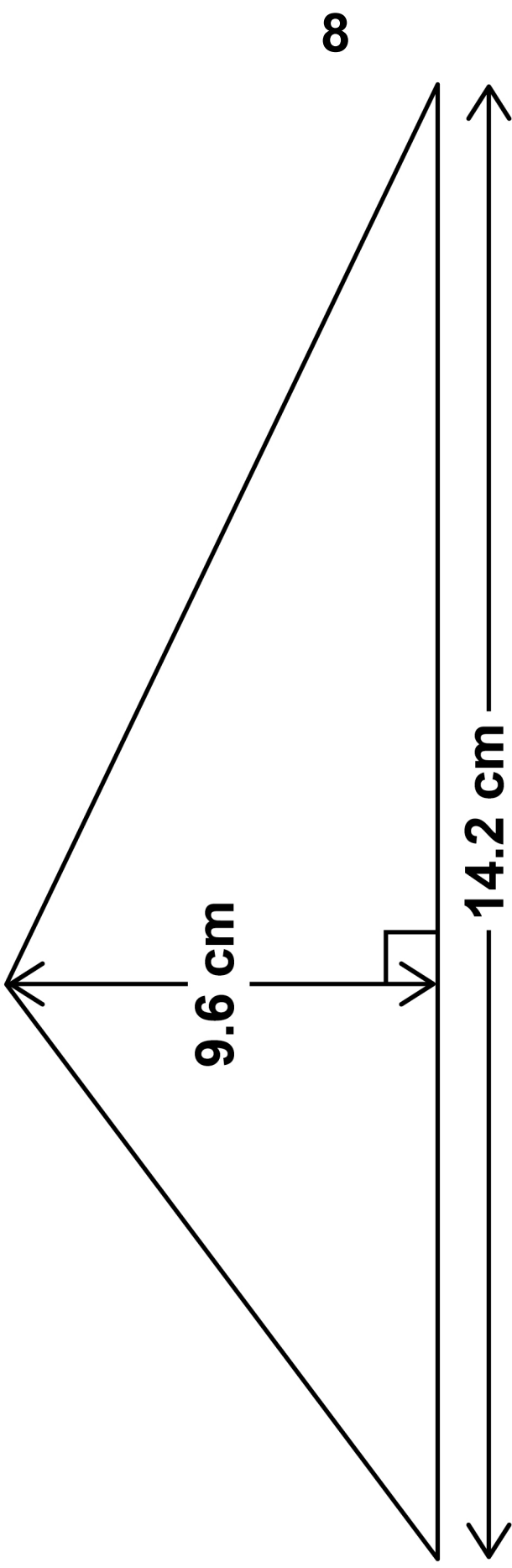
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5

The diagram is not drawn accurately.



Work out the area of the triangle. [2 marks]





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9

Answer \_\_\_\_\_  $\text{cm}^2$

**[Turn over]**

- 6 Use APPROXIMATIONS to estimate  $597 - (61 - 38)^2$

Do NOT calculate the exact answer.

You MUST show your working.  
[3 marks]

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Answer \_\_\_\_\_

12



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**[Turn over]**



**SECTION B**

**Answer 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]**

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**[Turn over]**



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**Answer £** \_\_\_\_\_

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**[Turn over]**



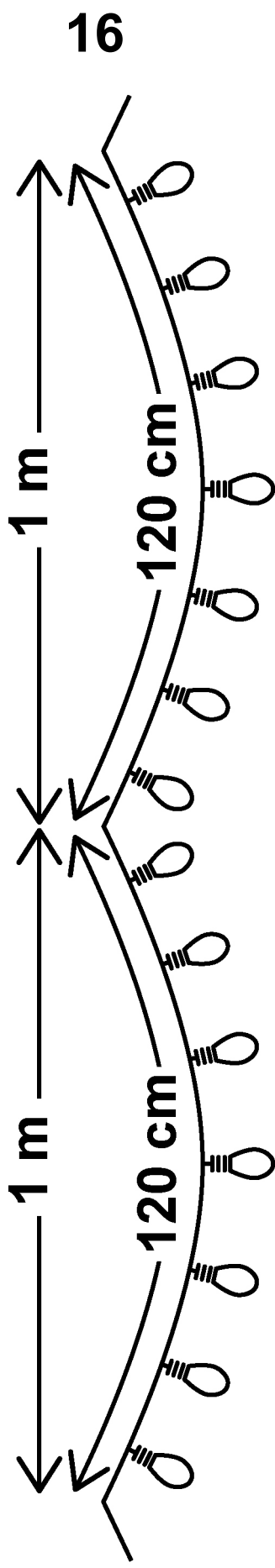


7 (b)

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.

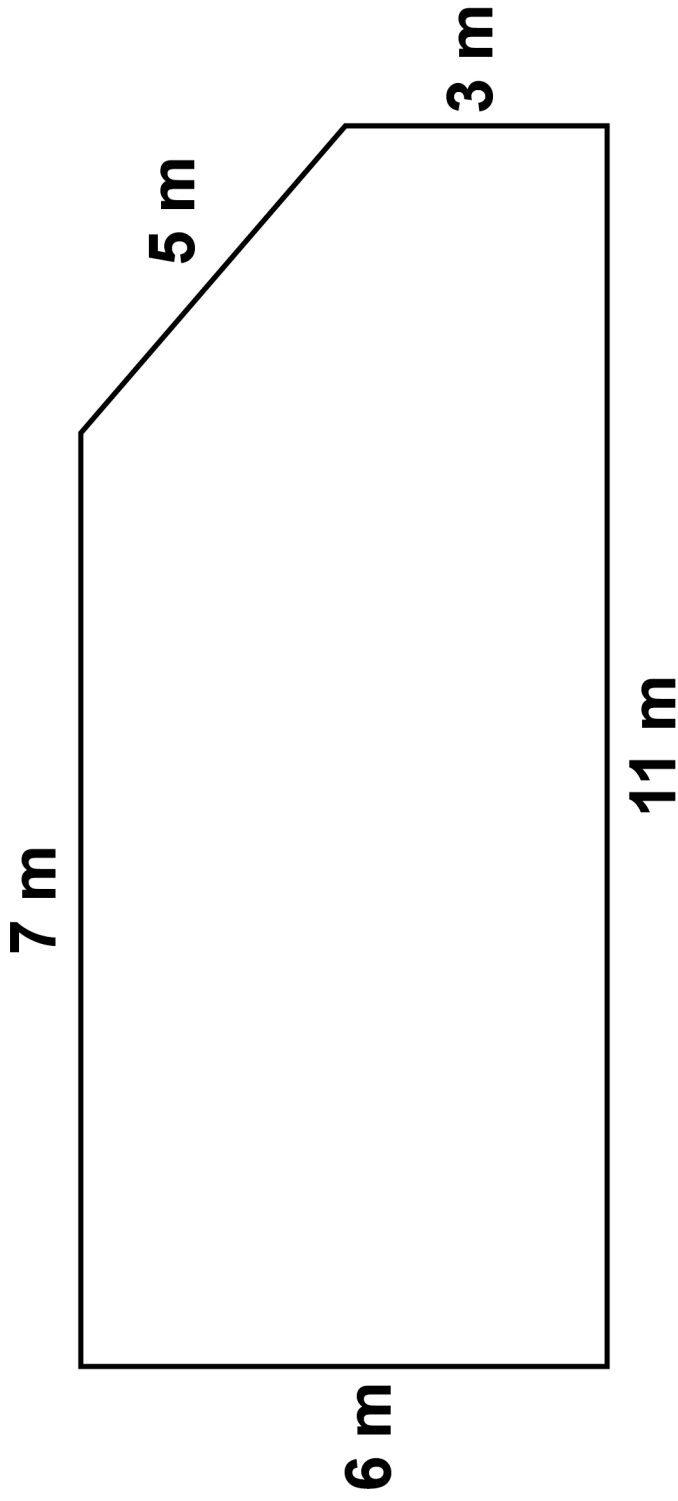
The diagram is not drawn accurately.



On the opposite page is a sketch of the plan of Oskar's garden.

The diagram is not drawn accurately.





**Work out the total length of wire in metres and the total number of light bulbs that Oskar needs. [4 marks]**

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**[Turn over]**

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Wire \_\_\_\_\_ metres

Light bulbs \_\_\_\_\_



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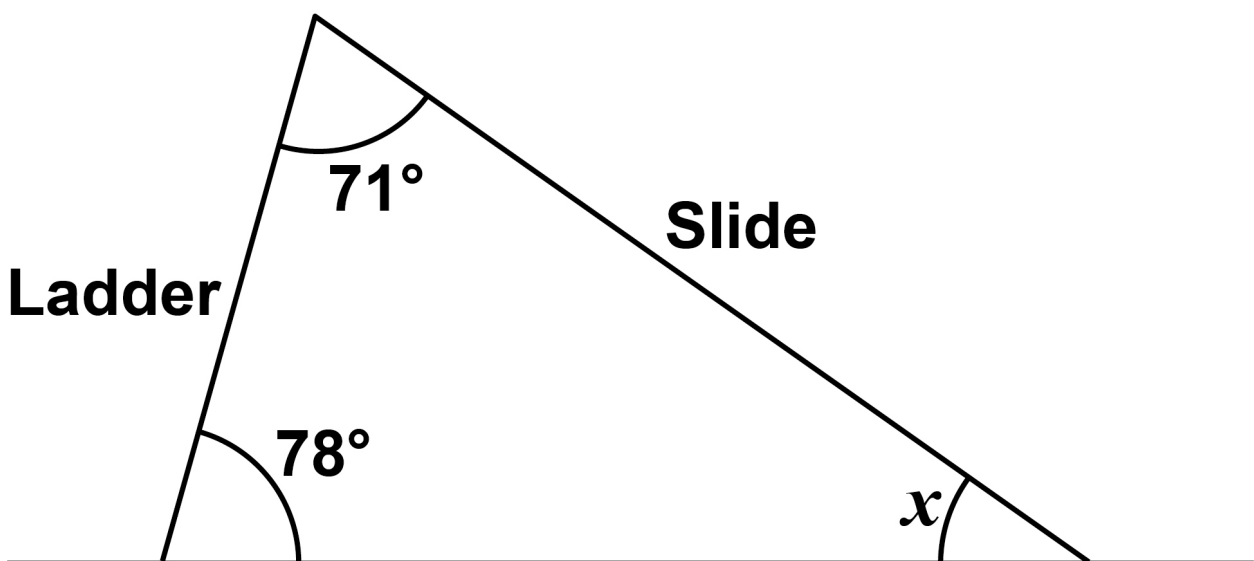


**[Turn over]**

**7 (c)** Oskar wants to buy a garden slide for his children.

**He sees this sketch of a slide showing two of the angles.**

**The diagram is not drawn accurately.**



**For the slide to be suitable for children, angle  $x$  should be between  $28^\circ$  and  $32^\circ$**

**Is the slide suitable for children?**



**You MUST show your working.**  
**[2 marks]**

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**[Turn over]**

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11



**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/cm<sup>3</sup>**

**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]**

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**[Turn over]**



**8 (b) Kian makes dolls' houses, based on a real house.**

**He uses a scale of 1 : 12**

**The door of the real house has a height of 78 inches.**

**Kian cuts the doors for the dolls' houses from a 1.1 metre length of wood.**

**The width of the wood is correct for the doors of the dolls' houses.**

**How many doors can he cut from the length of wood?**

**Use 1 inch = 2.5 cm**

**You MUST show your working.  
[5 marks]**

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Answer \_\_\_\_\_

[Turn over]



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]**

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**[Turn over]**



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## 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]**

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**[Turn over]**



**30**

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**Answer £** \_\_\_\_\_



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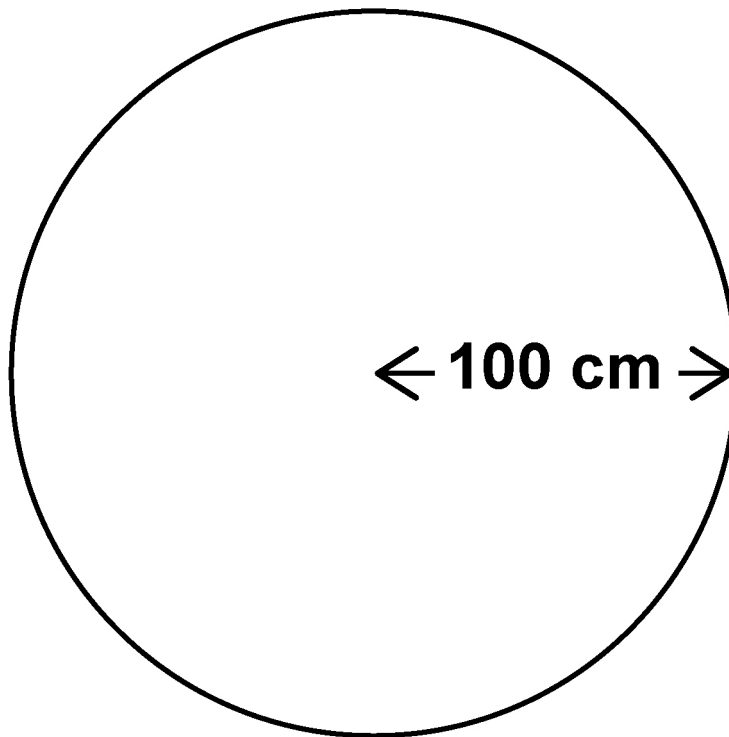
**[Turn over]**



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

**The diagram is not drawn accurately.**

**Table A**



**Table A**

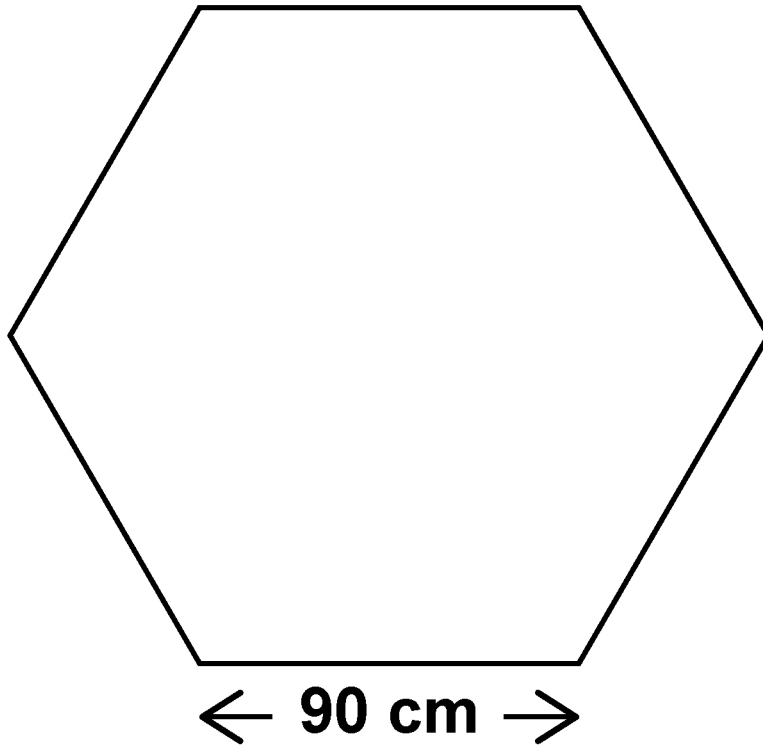
- **has a top which is a circle with radius 100 cm**
- **sits 8 PEOPLE.**





The diagram is not drawn accurately.

Table B



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.



[Turn over]

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**Which table top has the larger area PER PERSON, A or B?**

**You MUST show your working.**  
**[6 marks]**

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**[Turn over]**



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Answer \_\_\_\_\_

**10 HOLIDAY PARK**

**Pete is the manager at a  
holiday park.**

**[Turn over]**





**10 (a)**

**The holiday park rents out caravans.**

**Pete records this information about the caravan bookings THIS WEEK.**

<b>Number of guests per caravan</b>	<b>Number of caravans booked</b>	<b>MIDPOINT</b>	
<b>1 to 3</b>	<b>29</b>		
<b>4 to 6</b>	<b>35</b>		
<b>7 to 9</b>	<b>11</b>		
<b>TOTAL = 75</b>			



**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]**

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**[Turn over]**

Vertical lines for writing.





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**[Turn over]**



**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.**

	<b>STARTER</b>	<b>NO STARTER</b>
<b>PUDDING</b>	46	65
<b>NO PUDDING</b>	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]

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**[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]

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**Answer** \_\_\_\_\_

[Turn over]



**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.**

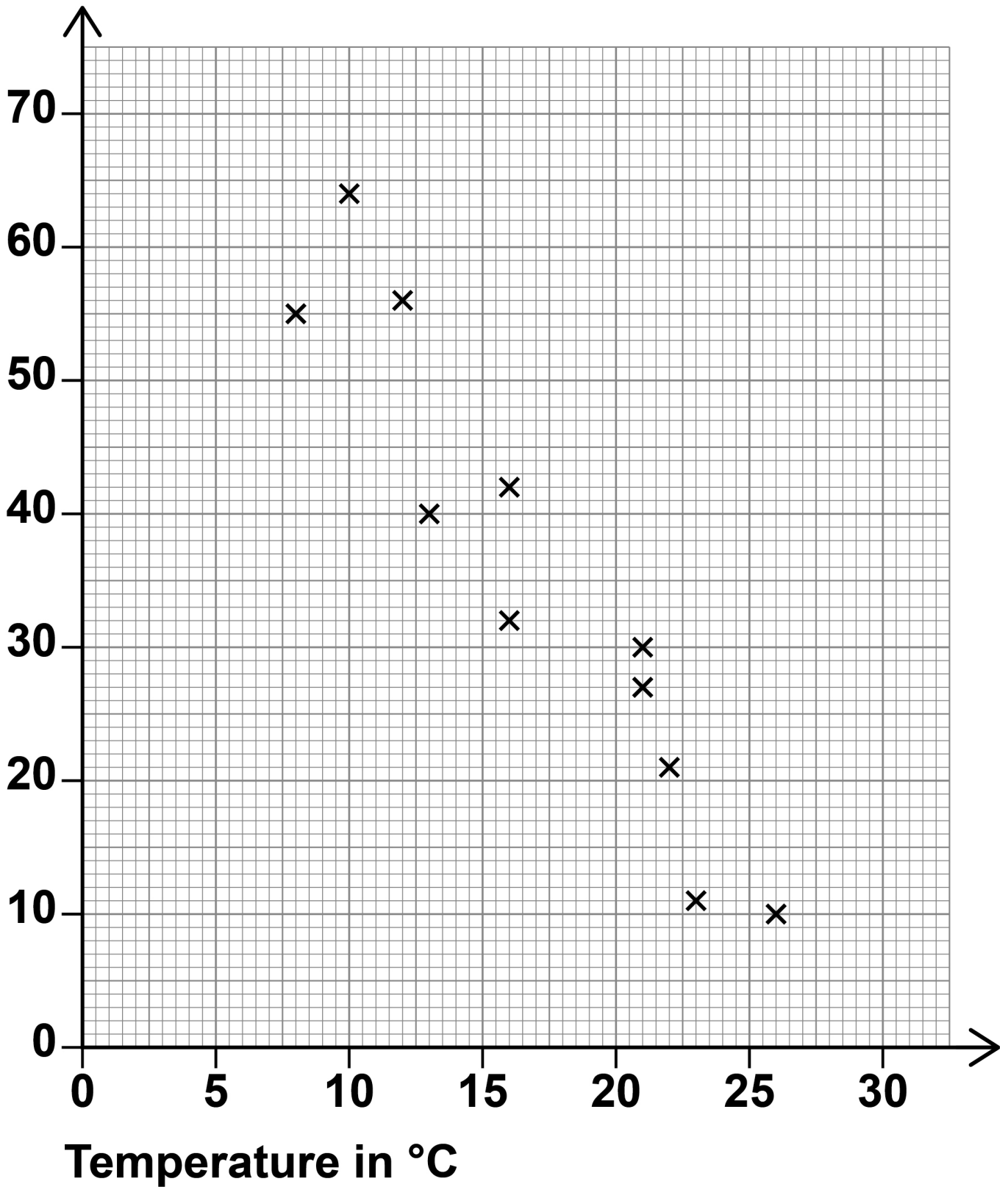
**The scatter graph, on the opposite page, represents the results.**

**Use the scatter graph to estimate the number of children who will use the play area when the temperature is  $18^{\circ}\text{C}$ .**

**You MUST show your working which should be on the graph.  
[3 marks]**

**Answer \_\_\_\_\_**

Number of children



END OF QUESTIONS



**Additional page, if required.**

**Write the question numbers in the left-hand margin.**






**Additional page, if required.**

**Write the question numbers in the  
left-hand margin.**




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For Examiner's Use	
Question	Mark
1–6	
7	
8	
9	
10	
<b>TOTAL</b>	

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