A

AQA

Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

I declare this is my own work.

Functional Skills Level 2 MATHEMATICS

Paper 2 Calculator

8362/2
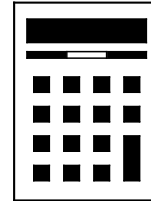
Time allowed: 1 hour 30 minutes

At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.
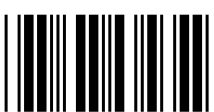
[Turn over]

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 π button, take the value of π 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   Circle the SMALLEST number. [1 mark]
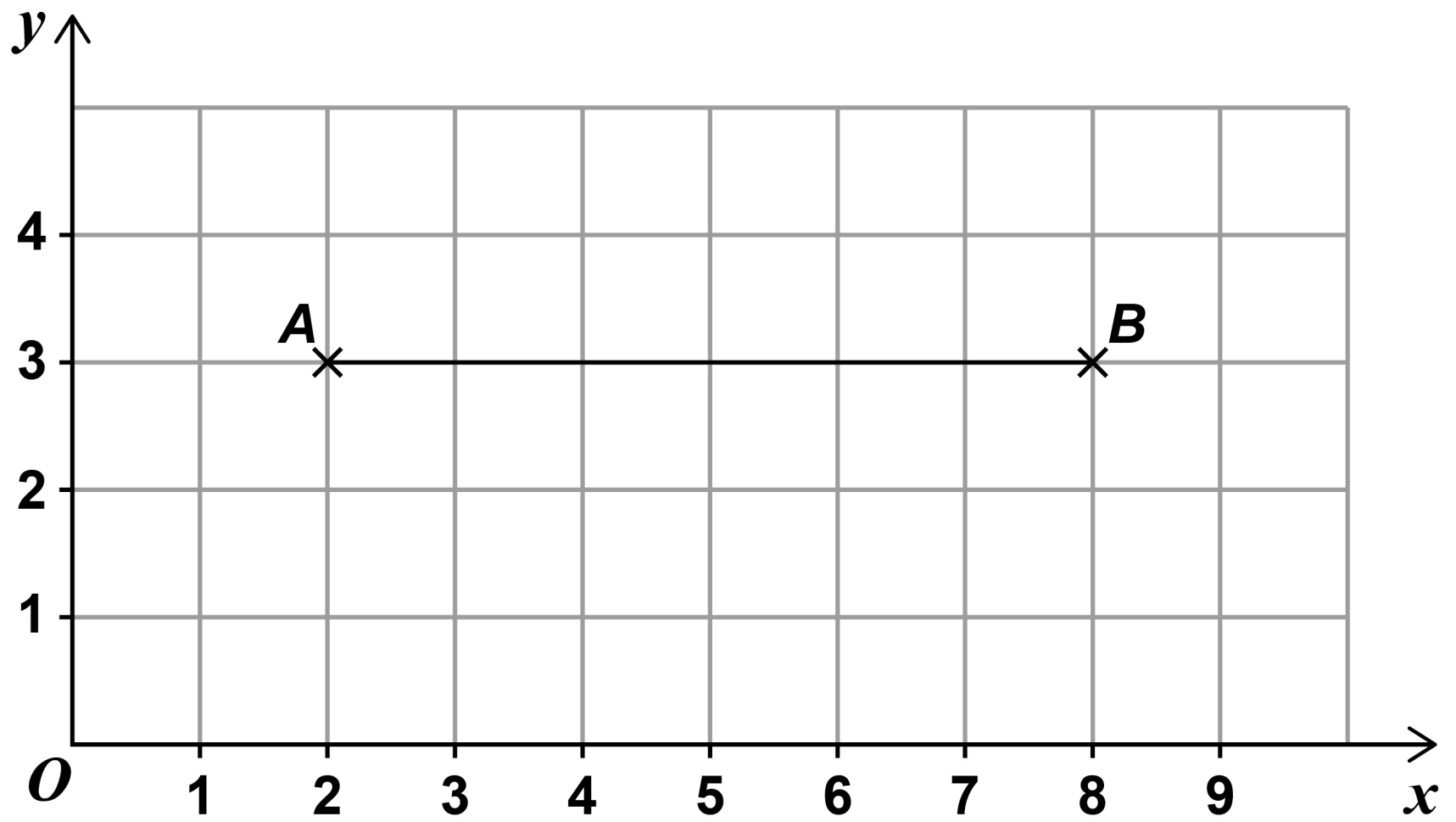
1   −5   −3   0

2   Complete the table to show equivalent fractions, decimals and percentages. [3 marks]

Fraction	Decimal	Percentage
$\frac{17}{20}$	0.85	
$\frac{1}{25}$		4%
	0.59	59%

3   *A*(2, 3) and *B*(8, 3) are points on a grid.

Work out the coordinates of the MIDPOINT of line *AB*.
[1 mark]

Answer (_____ , _____)

[Turn over]

4   Here are six numbers.

7   10   13   7   15   8

Work out the median. [2 marks]

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Answer _____

5   **Express 76 as a percentage of 200 [1 mark]**

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Answer _____ %

6   **Share   126   in the ratio   3 : 11   [2 marks]**

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Answer _____**and** _____

[Turn over]

7   Which is closer to 9.5

9.073   or   9.916 ?

You MUST show your working. [2 marks]

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Answer _____

12

BLANK PAGE

[Turn over]

09

SECTION B

Answer ALL questions in the spaces provided.

8   PETS

8 (a)   Miya manages a pet shop.

She reduces the price of all fish tanks by 17%

She puts this sticker on one of the tanks.

> **Reduced by 17%**
> **Was £195**
> **Now £167.95**

Has Miya calculated the new price correctly?

You MUST show your working.   [3 marks]

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[Turn over]

8 (b) Alex makes food for his dogs.

He uses 2 POUNDS of mince to make 12 portions of food.

He has 1.5 KILOGRAMS of mince.

Is this enough to make 21 portions of food?

Use   1 kg = 2.2 pounds

You MUST show your working. [3 marks]

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[Turn over]

8 (c)   Sophie has a hutch for her pet rabbit.

The floor area of the hutch is 4.46 m^2

Sophie builds a new hutch with the floor in the shape of a regular octagon.

Area of a regular octagon = $2s^2(1 + \sqrt{2})$
where s is the side length

The side length of the floor of the new hutch is 1.1 m

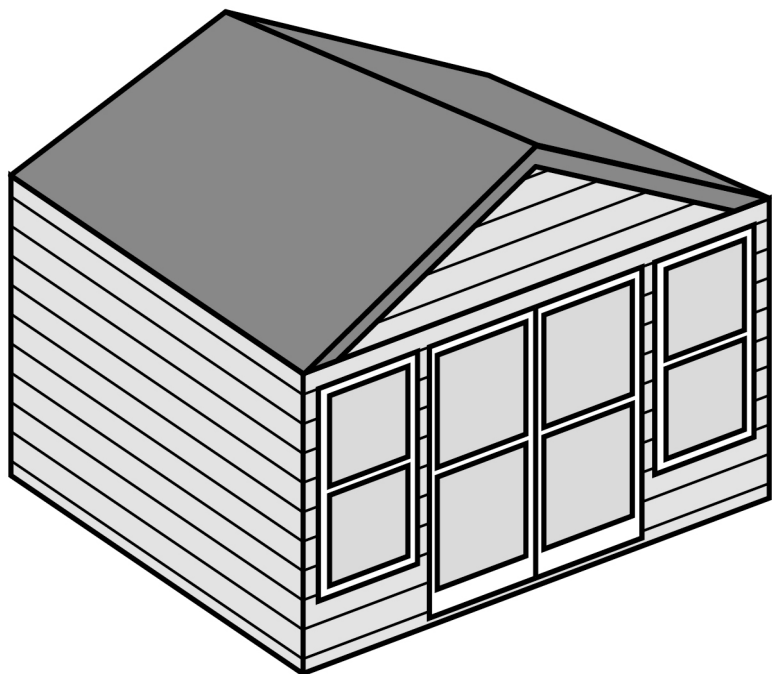How much bigger is the floor area of the new hutch than the floor area of the old hutch? [3 marks]

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Answer _____ **m^2**

9

[Turn over]

9   SUMMER HOUSE

Lisa is buying a summer house for her garden.

9 (a)

Summer house   £5964

Delivery charge £2.25 per mile

PAYMENT PLAN

Deposit of $\frac{2}{7}$ of the total price including delivery

then 12 equal monthly payments

Lisa buys the summer house, with a delivery charge for 84 miles.

She uses the payment plan.

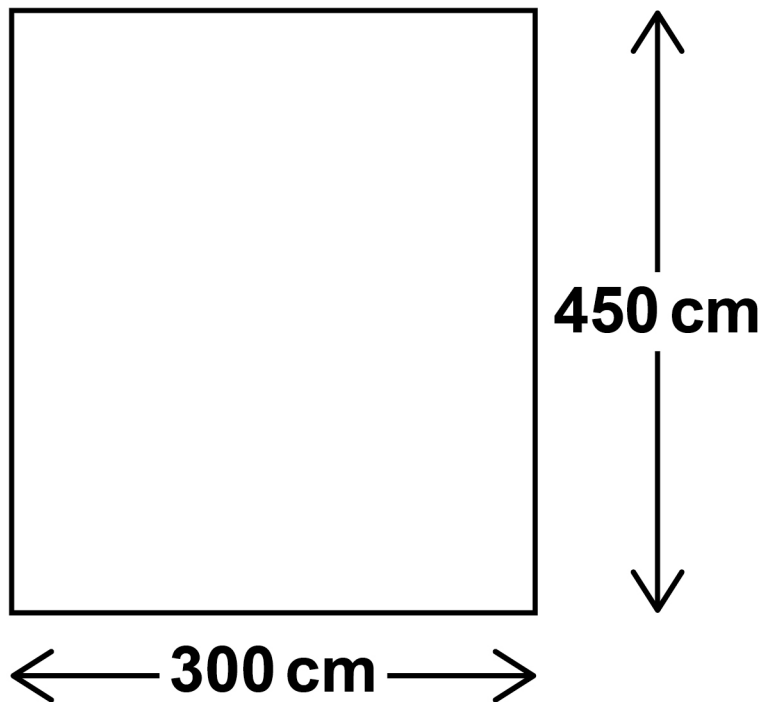Work out the deposit and the amount of each monthly payment. [6 marks]

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Deposit £ _____

Monthly payment £ _____

[Turn over]

9 (b) **The base of the summer house has dimensions 300 cm by 450 cm**

The diagram is not drawn accurately.

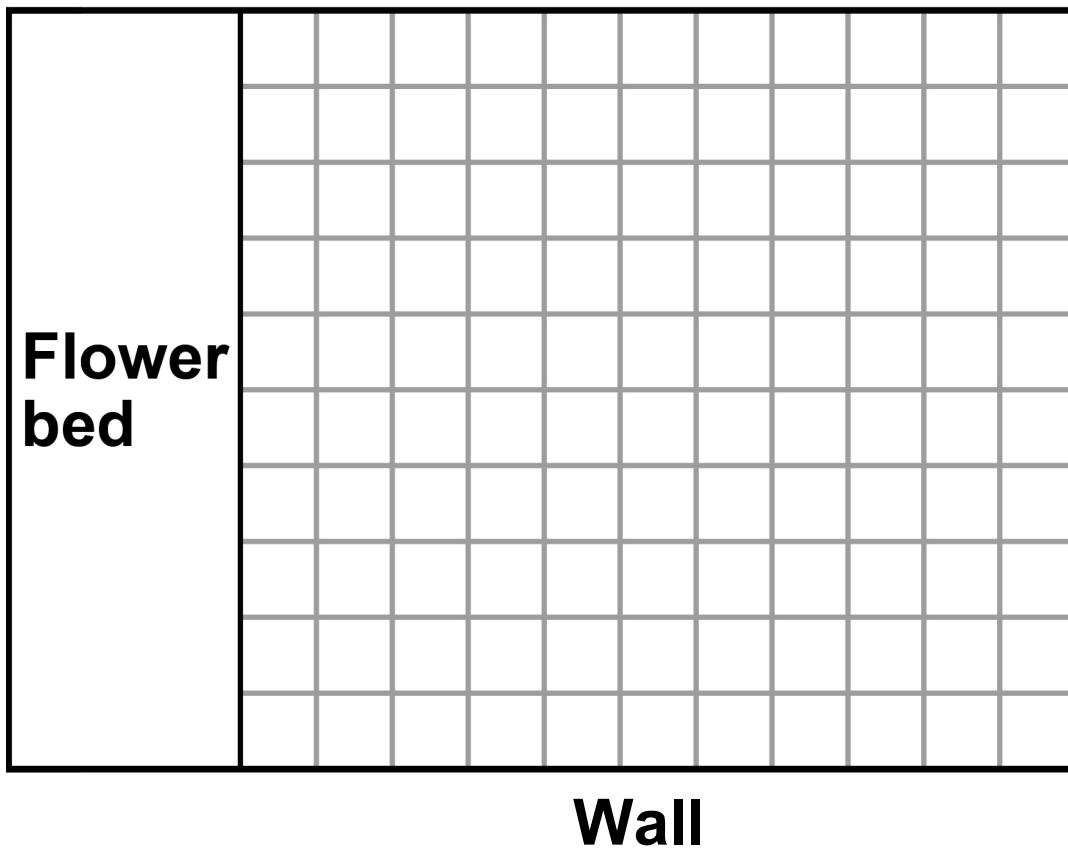**Lisa's garden is drawn to a scale of 1 to 100 on a centimetre grid.**

There is a wall at the bottom of the garden and a flower bed down one side.

Lisa wants to put the summer house

at least 400 cm from the wall

and

at least 500 cm from the flower bed.

On the centimetre grid, on the opposite page, show where Lisa can put the summer house. [3 marks]

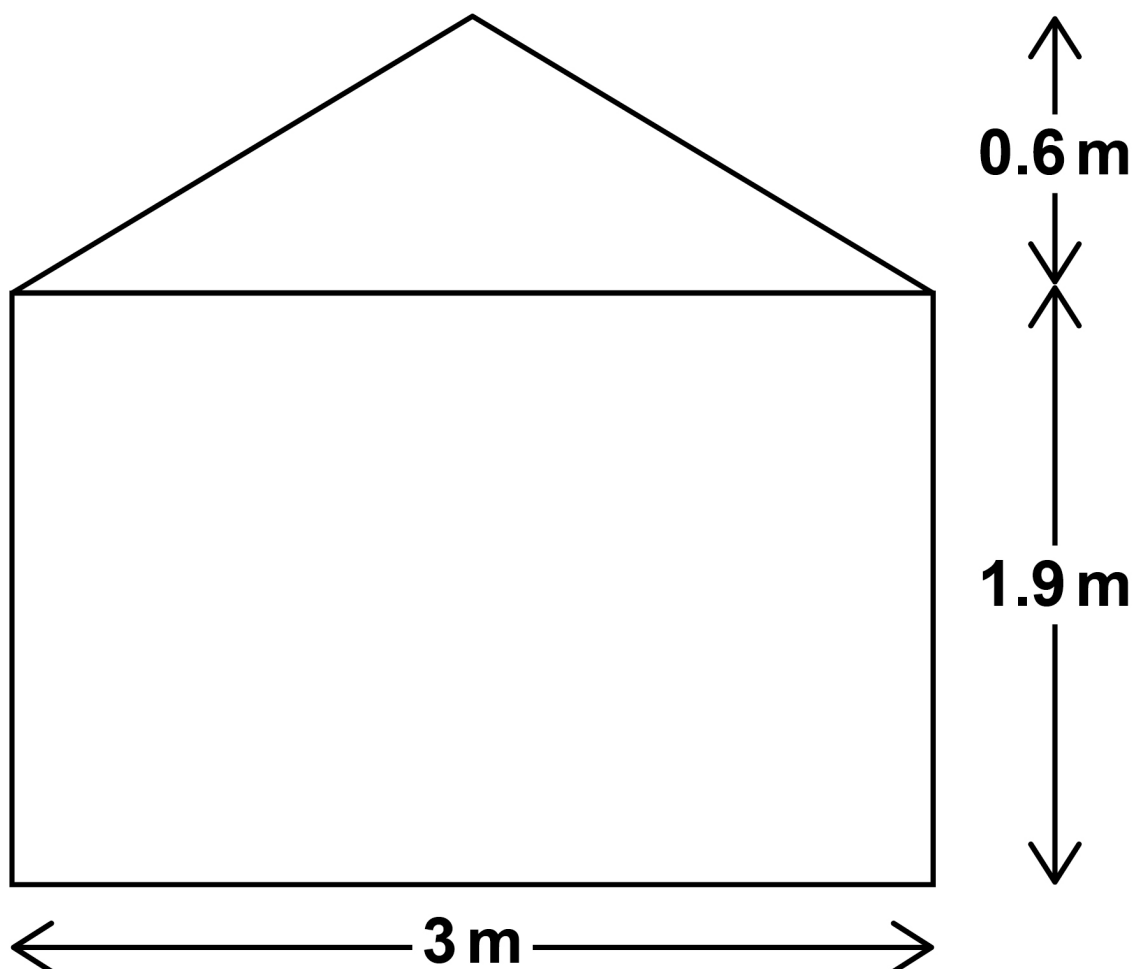**Scale: 1 to 100**

Flower bed

Wall

[Turn over]

9 (c) Lisa is buying a heater for the summer house.

To work out the correct heater size she uses the formula

> Minimum heater size (kW) =
> area of the front (m^2) × length (m) × 0.058

Here is the front view of the summer house.

The diagram is not drawn accurately.

0.6 m

1.9 m

3 m

The length of the summer house is 4.5 m

Lisa can buy a 1 kW heater or a 2 kW heater.

Which heater should she buy?

You MUST show your working. [5 marks]

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Answer _____

14

10 EARNINGS AND SAVING

10 (a) **Jamal works for a company.**

His normal rate of pay is £9.50 per hour.

His overtime rate of pay is 1.5 times his normal rate.

One week, Jamal works

38 hours at his normal rate

and

6 hours overtime.

From his earnings, the company deducts

Income Tax at 20% on his earnings over £242

National Insurance at 12% on his earnings over £184

Work out Jamal's net pay that week, after Income Tax and National Insurance are deducted. [7 marks]

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Answer £ _____

10 (b)   Jamal decides to put £2500 in a savings account for 3 years.

He compares the interest paid by two banks.

Bank A

1.4% compound interest per year

Bank B

Year 1 – no interest added

Year 2 – £49.15 interest added

Year 3 – £56.30 interest added

Which bank should Jamal choose, A or B?

You MUST show your working. [5 marks]

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Answer _____

12

[Turn over]

11   SOFT PLAY CENTRE

11 (a)   At a soft play centre one morning,

there are 6 staff on duty

the ratio of staff to children is 2 : 17

35 of the children are aged under 7

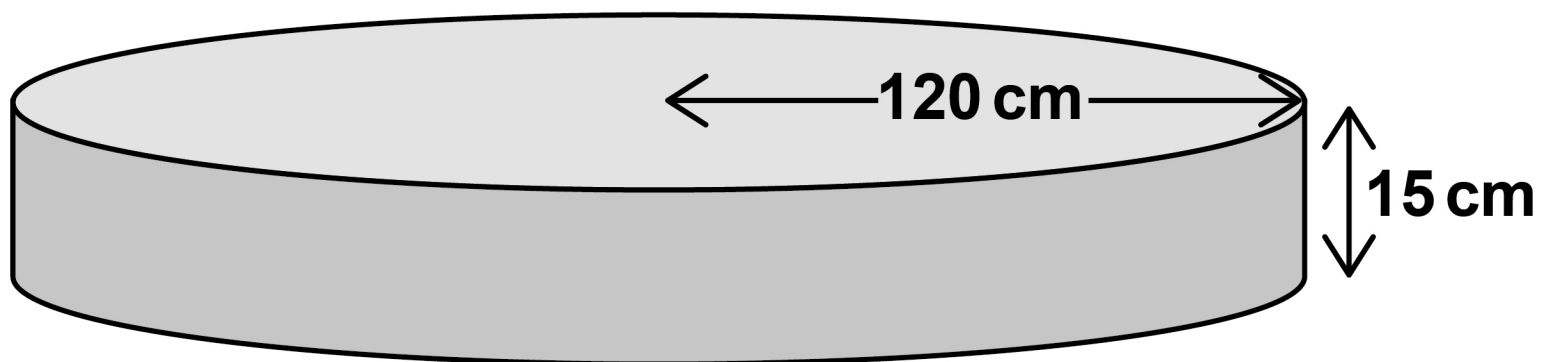**How many of the children are aged 7 or over?**
[4 marks]

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Answer _____

[Turn over]

11 (b) A new sand pit is built at the soft play centre.

The sand pit is in the shape of a cylinder of radius 120 cm

The sand pit will be filled with play sand to a depth of 15 cm

The diagram is not drawn accurately.

Play sand is sold in 50-litre bags and each bag costs £9.97

1 litre = 1000 cm^3

How much will it cost to buy enough bags of sand to fill the sand pit to a depth of 15 cm? [6 marks]

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Answer £ _____

11 (c) The table shows the ages of children at the centre one day.

Age	Number of children
3 and under	8
4–6	15
7–9	13
10 and over	4

One of the children is chosen at random to win a free soft play visit.

The manager says,

"The probability that the child is aged 7– 9 is MORE THAN $\frac{3}{10}$"

Is the manager correct?

You MUST show your working. [3 marks]

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13

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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