

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

1 Andy thinks of a number.

He multiplies it by 4
He then subtracts 6
His answer is 7.2

What number did he think of?

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.....
.....

Answer (3 marks)

2 Ellie drives 169 miles from Sheffield to London.

She drives at an average speed of 65 miles per hour.
She leaves Sheffield at 6:30 am.

Does she arrive in London before 9:00 am?
You **must** show your working.

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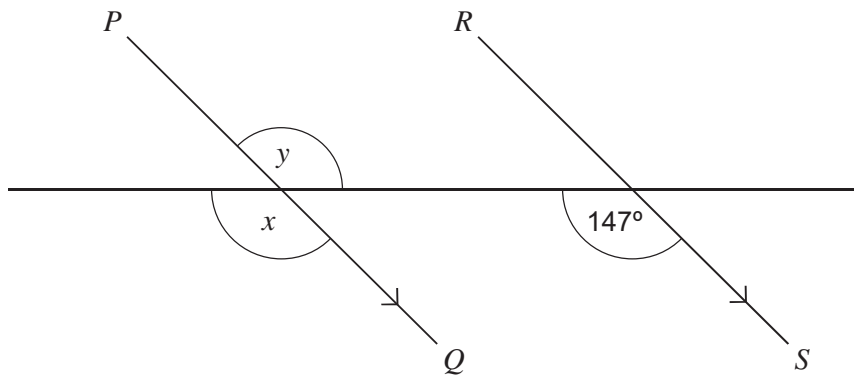
(4 marks)

7

Turn over ►



*3 PQ and RS are parallel.



Not drawn
accurately

3 (a) Write down the value of x .
Give a reason for your answer.

Answerdegrees

Reason
(2 marks)

3 (b) Write down the value of y .
Give a reason for your answer.

Answerdegrees

Reason
(2 marks)



4 Ben sees these adverts to hire the same car.

Hire Deal

No charge for mileage

Normal price £78 each day

Offer Now $\frac{1}{3}$ off

Price includes VAT

Best Cars

£36 each day

15p for each mile

Prices exclude VAT

VAT is 20%

Ben wants to hire the car for 10 days.
He expects to drive 600 miles.

Should he choose Hire Deal or Best Cars to get the cheaper deal?
You **must** show your working.

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Answer (6 marks)

10

Turn over ►

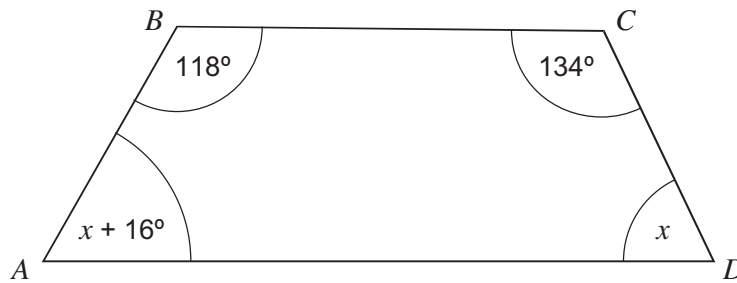


5 Work out the value of $15(3n + 8)$ when $n = 13$

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Answer (2 marks)

6 $ABCD$ is a quadrilateral.



Not drawn
accurately

6 (a) Work out the value of x .

.....

Answer degrees (3 marks)

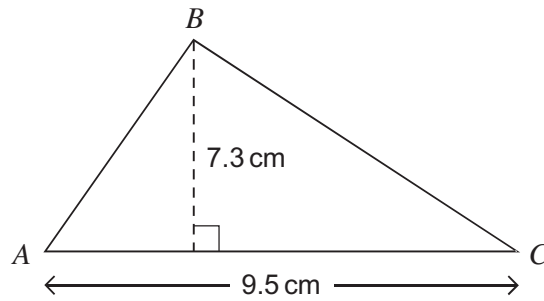
6 (b) Is BC parallel to AD ?
Give a reason for your answer.

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(1 mark)



7 The diagram shows a triangle ABC .



Not drawn accurately

Work out the area of the triangle.
Give your answer to 1 decimal place.

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Answer cm^2 (3 marks)

8 Solve $4(3x - 7) = 20$

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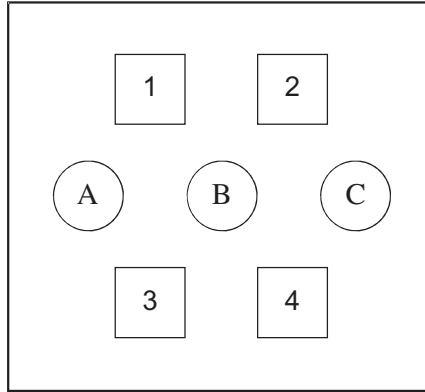
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$x =$ (3 marks)



9 The diagram shows a door lock.



The code (number, letter, number) is entered by pressing a button from each row in turn (top row, middle row, bottom row).

Sarah knows that the code begins with 1.
She presses 1 and then enters the rest of the code at random.

Work out the probability that she enters the correct code.

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Answer (3 marks)



***10** Use trial and improvement to find a solution to the equation

$$x^3 - 3x = 45$$

The first step is shown in the table.
Give your solution to 1 decimal place.

x	$x^3 - 3x$	Comment
3	18	Too small

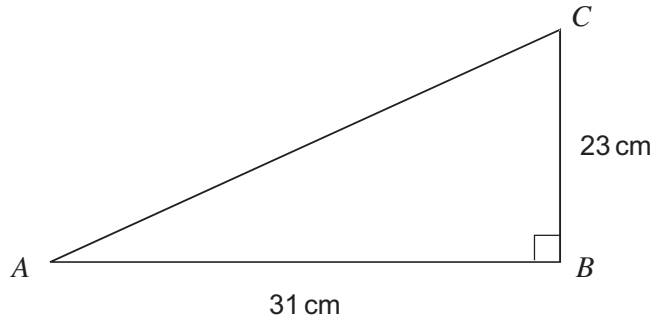
$x = \dots\dots\dots$ (4 marks)

7

Turn over ►



11 Work out the length AC .



Not drawn
accurately

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.....

Answer cm (3 marks)

12 A gym owner wants to know the number of hours that people exercise.

Write a question that he can use in his survey.
Include a response section.

.....

.....

(2 marks)



13 (a) Solve the inequality $3x - 5 \geq 16$

.....
.....

Answer (2 marks)

13 (b) The values $-1, 0, 1, 2$ and 3 satisfy **one** of the inequalities below.

Circle the correct inequality.

$$-2 < 2y \leq 6$$

$$-2 \leq 2y \leq 6$$

$$-2 \leq 2y < 6$$

(1 mark)

Turn over for the next question

8

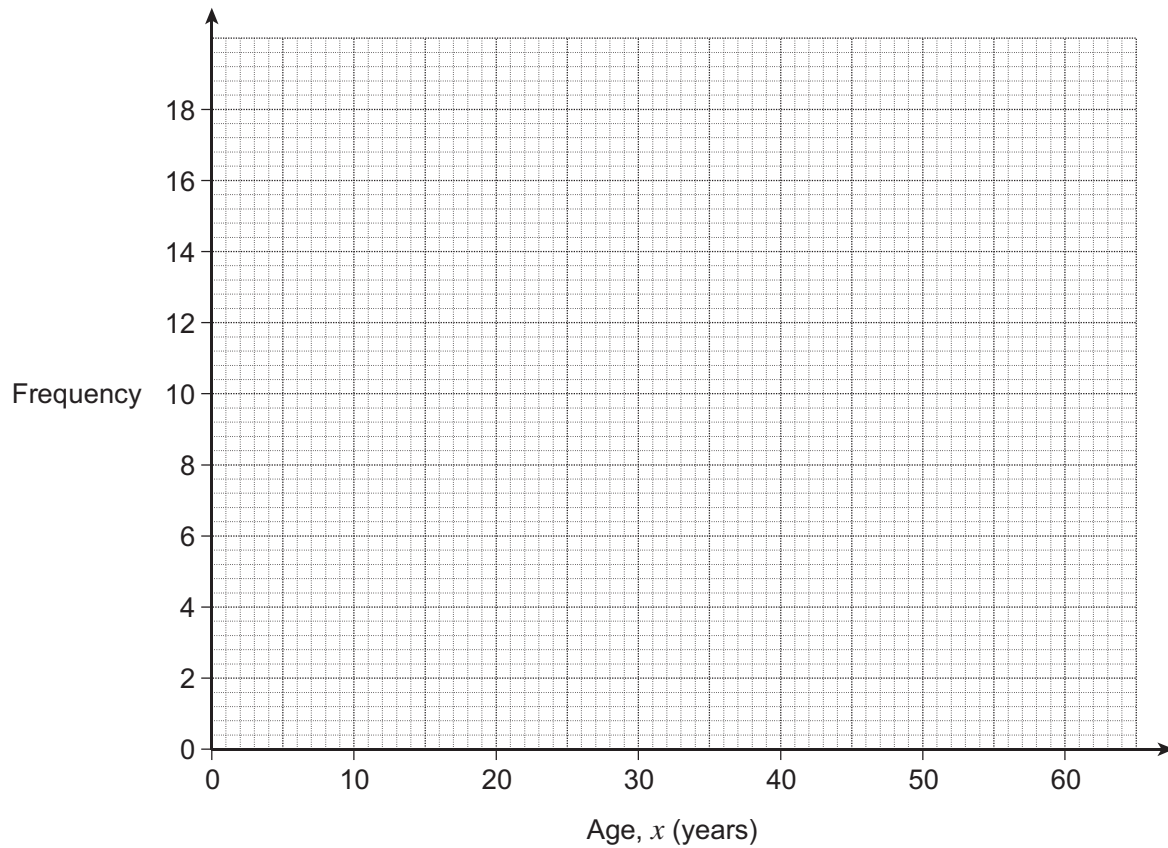
Turn over ►



- 14 The table shows information about the ages of people in a club.

Age, x (years)	$20 < x \leq 30$	$30 < x \leq 40$	$40 < x \leq 50$	$50 < x \leq 60$
Frequency	4	8	17	12

Draw a frequency polygon to represent the data.



(2 marks)

