OXFORD

INTERNATIONAL AQA EXAMINATIONS

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

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INTERNATIONAL GCSE

MATHEMATICS CORE

C

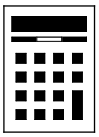
Paper 1C

Tuesday 5 November 2019 07:00 GMT 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.
- Fill in the boxes at the top of this page.
- 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.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- 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

- Show all necessary working; otherwise marks for method may be lost.

For Examiner's Use	
Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
12–13	
14–15	
16–17	
18–19	
20–21	
22–23	
24–25	
TOTAL	

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

Do not write outside the box

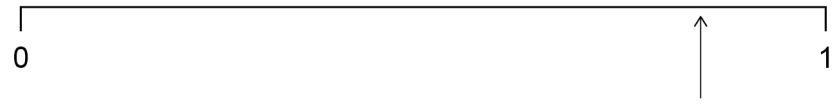
1 Circle the cube number.

[1 mark]

3 6 9 27

2 A probability scale is shown below.

The arrow marks the probability of an event.



Circle the word that describes the probability of the event.

[1 mark]

certain likely evens unlikely impossible

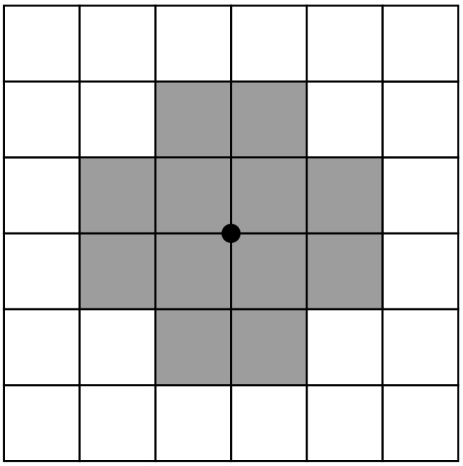
3 Circle the answer to $\sqrt{0.25} \times 0.16$

[1 mark]

0.04 0.08 0.1 0.2

Do not write outside the box

4



Circle the order of rotational symmetry of this pattern.

[1 mark]

0 1 2 4

5 Write down **all** the factors of 50

[2 marks]

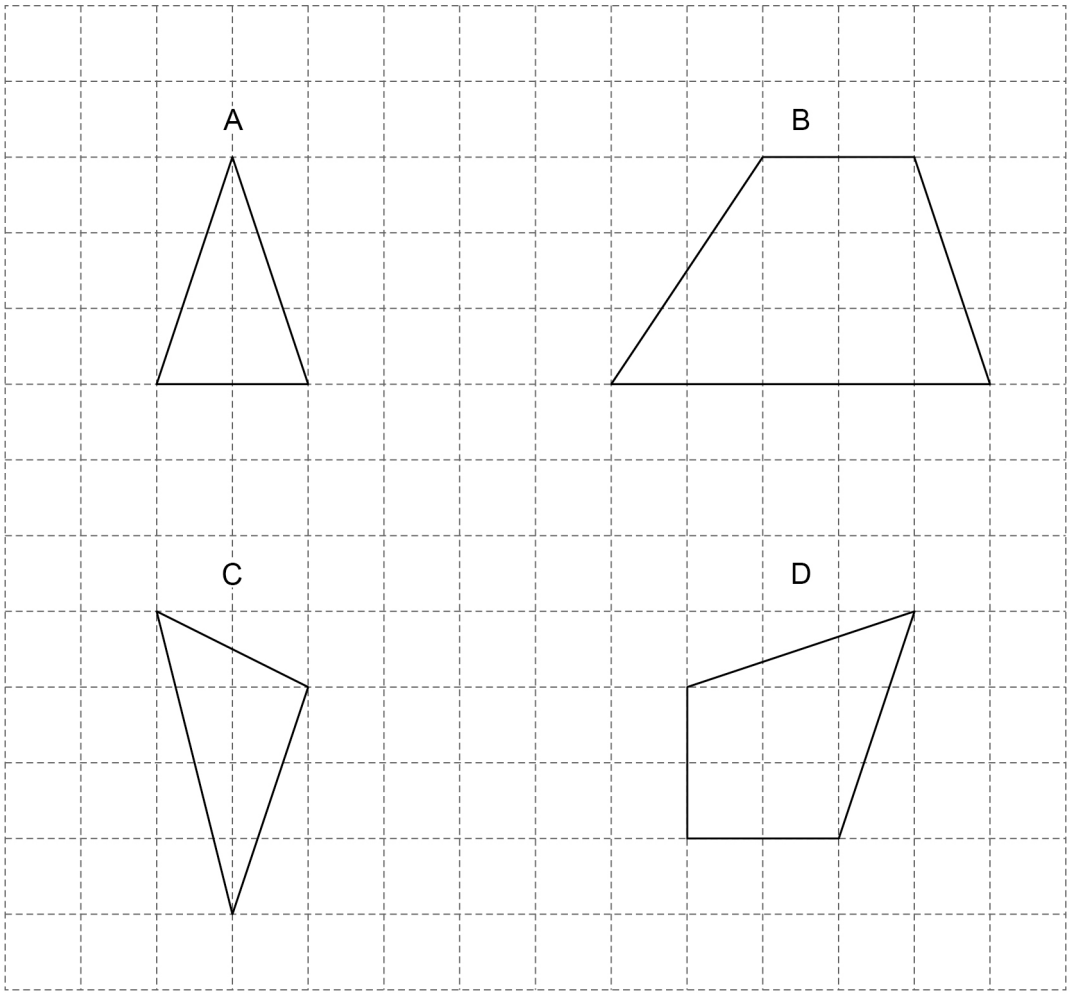
Answer _____

Turn over for the next question

6

Do not write outside the box

6 Shapes A, B, C and D are on a square grid.



Name each shape.

[4 marks]

Choose from

rhombus trapezium isosceles triangle

right-angled triangle kite scalene triangle

A _____

B _____

C _____

D _____

Do not write outside the box

7 Kerry has 420 beads.

She puts the beads into bags.

A full bag has 18 beads.

She fills as many bags as she can.

She has some beads left over and one more bag to fill.

How many **more** beads does she need to fill this bag?

[3 marks]

Answer _____

Turn over for the next question

7

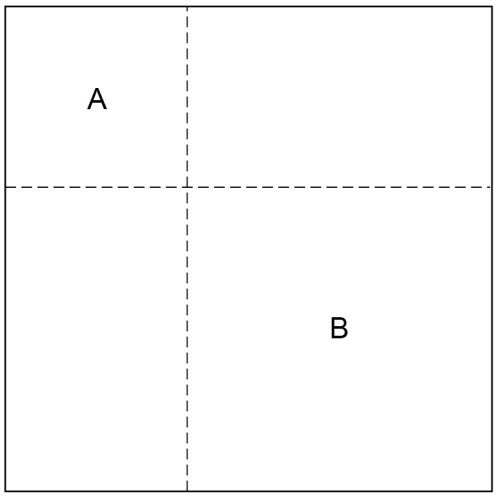
Do not write outside the box

8 A large square is made from

two smaller squares, A and B,

and

two identical rectangles.



Not drawn accurately

The area of A is 36 cm^2

The area of B is 64 cm^2

Work out the area of the large square.

[3 marks]

Answer _____ cm^2

Do not write outside the box

9 Here are three expressions.

$31 - x$ $6x$ x^2

Write the expressions in order of size when $x = 5$

Start with the smallest.

You **must** show the value of each expression.

[2 marks]

smallest _____

_____

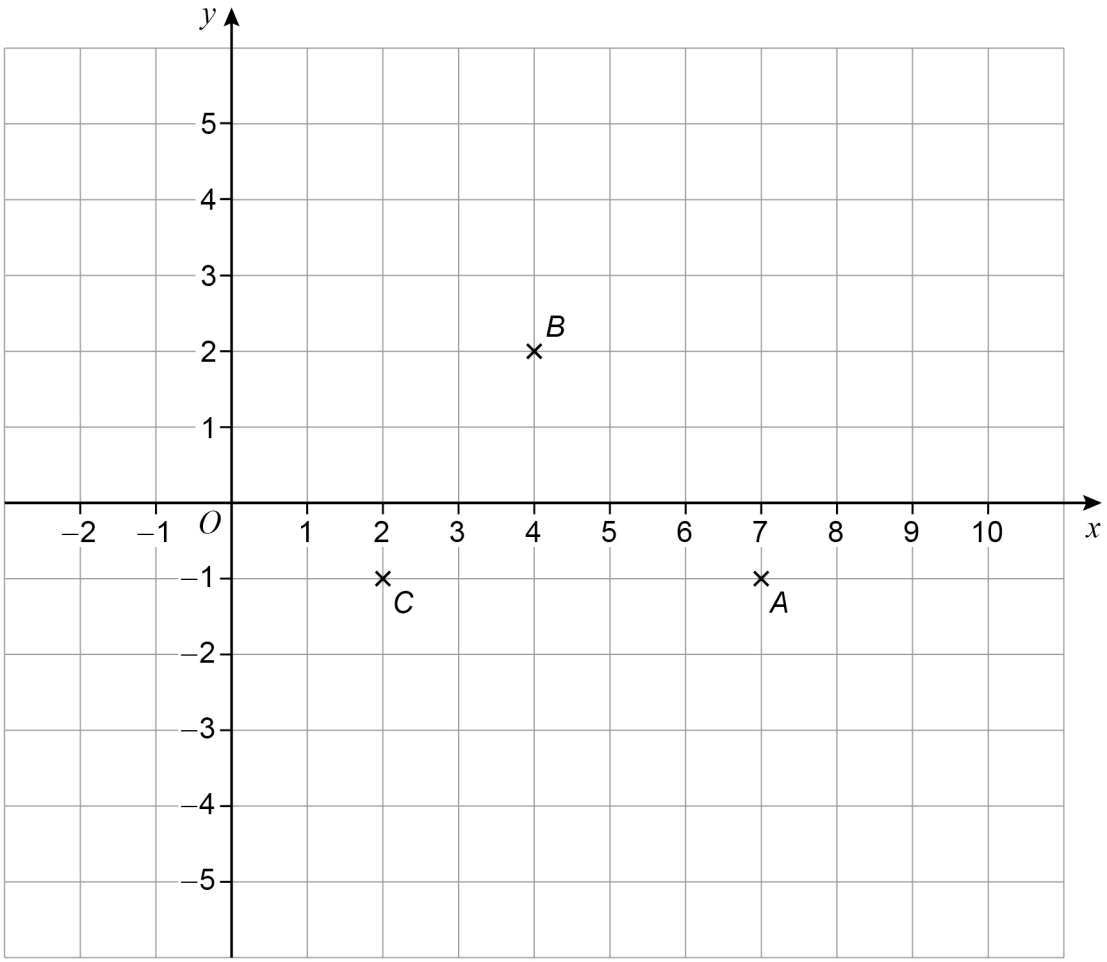
largest _____

Turn over for the next question

5

Do not write outside the box

10 *A*, *B* and *C* are three of the vertices of a parallelogram.



One possible position of the fourth vertex is (9, 2)

Work out the coordinates of the other **two** possible positions.

[2 marks]

Answer (_____ , _____) and (_____ , _____)

Do not write outside the box

11 (a) Here are the first four triangular numbers.

1 3 6 10

Work out the next triangular number.

[1 mark]

Answer _____

11 (b) A sequence has nth term $n^2 - 3$

Work out the first three terms of the sequence.

[2 marks]

_____

_____

_____

Answer _____ _____ _____

12 Cherries cost \$4.80 per kilogram.
Sal paid \$4.32 for some cherries.

How many **grams** of cherries did he buy?

[2 marks]

_____

_____

_____

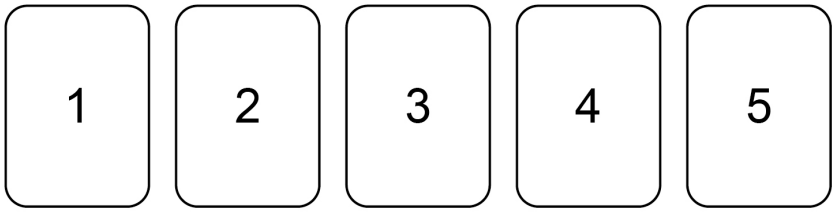
_____

Answer _____ grams

7

Do not write outside the box

13 Here are five number cards.



13 (a) All the cards are used to make a five-digit whole number.

The number is a multiple of 4

What is the **smallest** number that can be made?

[2 marks]

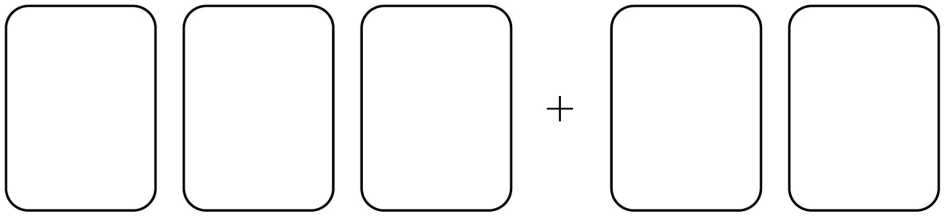
Answer _____

13 (b) All the cards are used to make two whole numbers.

One number has three digits.

The other number has two digits.

The two numbers are added together to make a total.



What is the **largest** total that can be made?

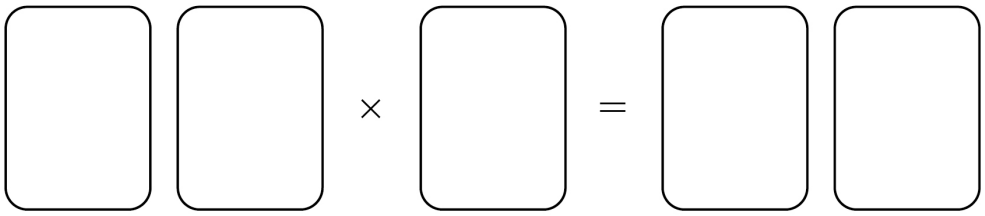
[2 marks]

Answer _____

Do not write outside the box

13 (c) Use all the cards to make this calculation correct.

[1 mark]

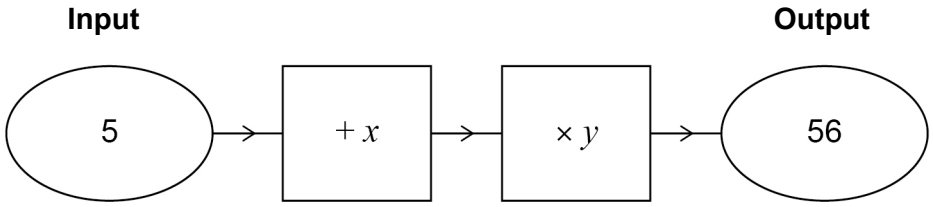


Turn over for the next question

5

Do not write outside the box

14 In this number machine, x and y are positive whole numbers.



14 (a) Work out a possible pair of values for x and y.

[1 mark]

$x =$ _____ $y =$ _____

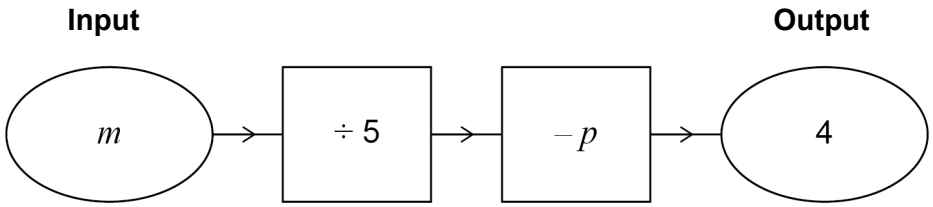
14 (b) Work out a **different** possible pair of values for x and y.

[1 mark]

$x =$ _____ $y =$ _____

Do not write outside the box

14 (c) In this number machine, m and p are positive whole numbers.



Work out a possible pair of values for m and p.

[1 mark]

$m =$ _____ $p =$ _____

15 13.5 million people answered a question in a vote.

62% said Yes.

38% said No.

How many **more** people said Yes than said No?

[3 marks]

Answer _____

6

Do not write outside the box

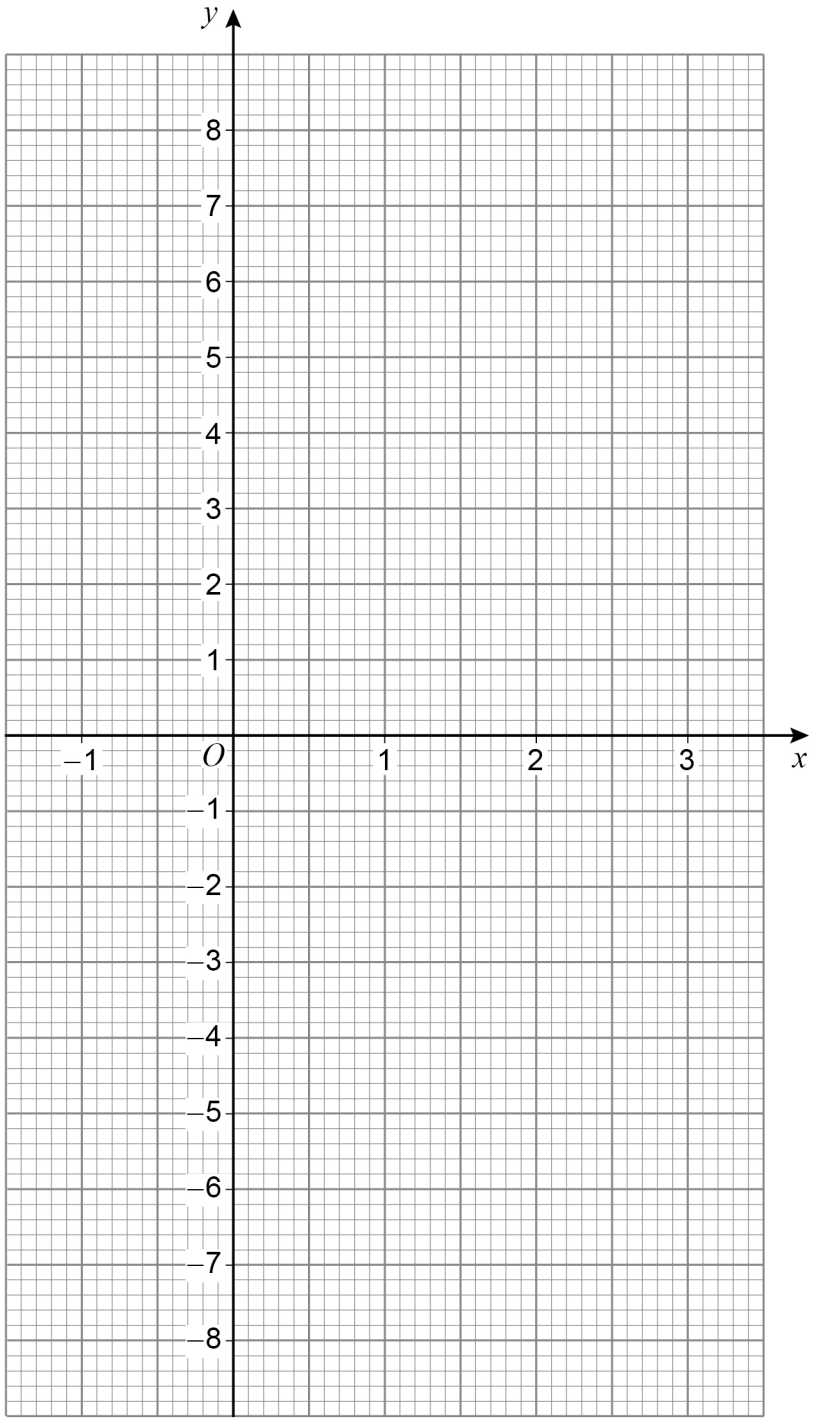
16 (a) Complete the table of values for $y = 3x - 4$

[2 marks]

x	–1	0	1	2	3
y			–1	2	

16 (b) Draw the graph of $y = 3x - 4$ for values of x from –1 to 3

[2 marks]



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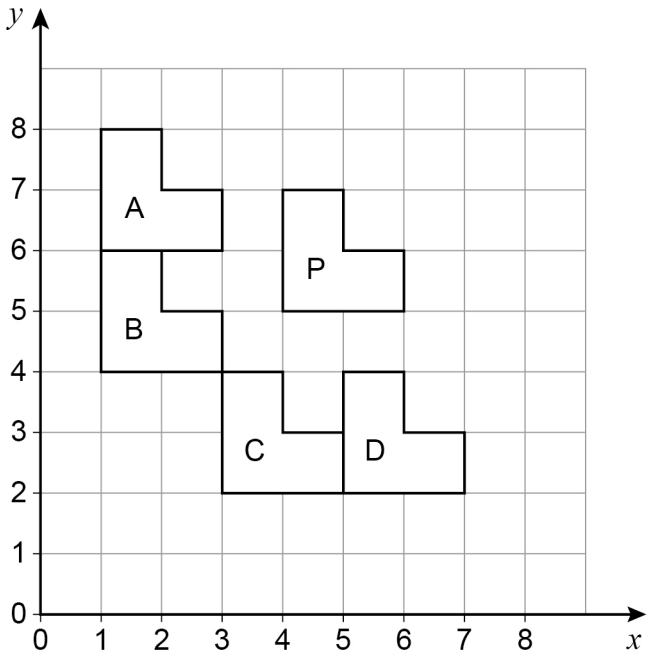
17 Shape P is translated by $\begin{pmatrix} 1 \\ -3 \end{pmatrix}$



Which shape is the result of the translation?

Circle your answer.

[1 mark]

A B C D

Turn over for the next question

5

Do not write outside the box

18 Sam grows 12 tomato plants in his garden.

Here are the heights of the plants in millimetres.

104 134 112 102 123 121 109 112 117 123 131 124

18 (a) Work out the range of the heights.

Circle your answer.

[1 mark]

32 mm 20 mm 34 mm 29 mm

18 (b) Work out the median height.

[2 marks]

Answer _____ mm

Do not write outside the box

18 (c) Draw an ordered stem-and-leaf diagram to represent the data.

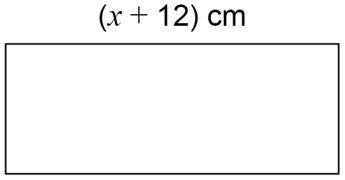
Remember to complete the key.

[3 marks]

Key: _____|_____ represents _____ mm

10	
11	
12	
13	

19 A rectangle has length $(x + 12)$ cm and width $(x - 3)$ cm



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The length is twice the width.

Work out the value of x.

[3 marks]

Answer _____

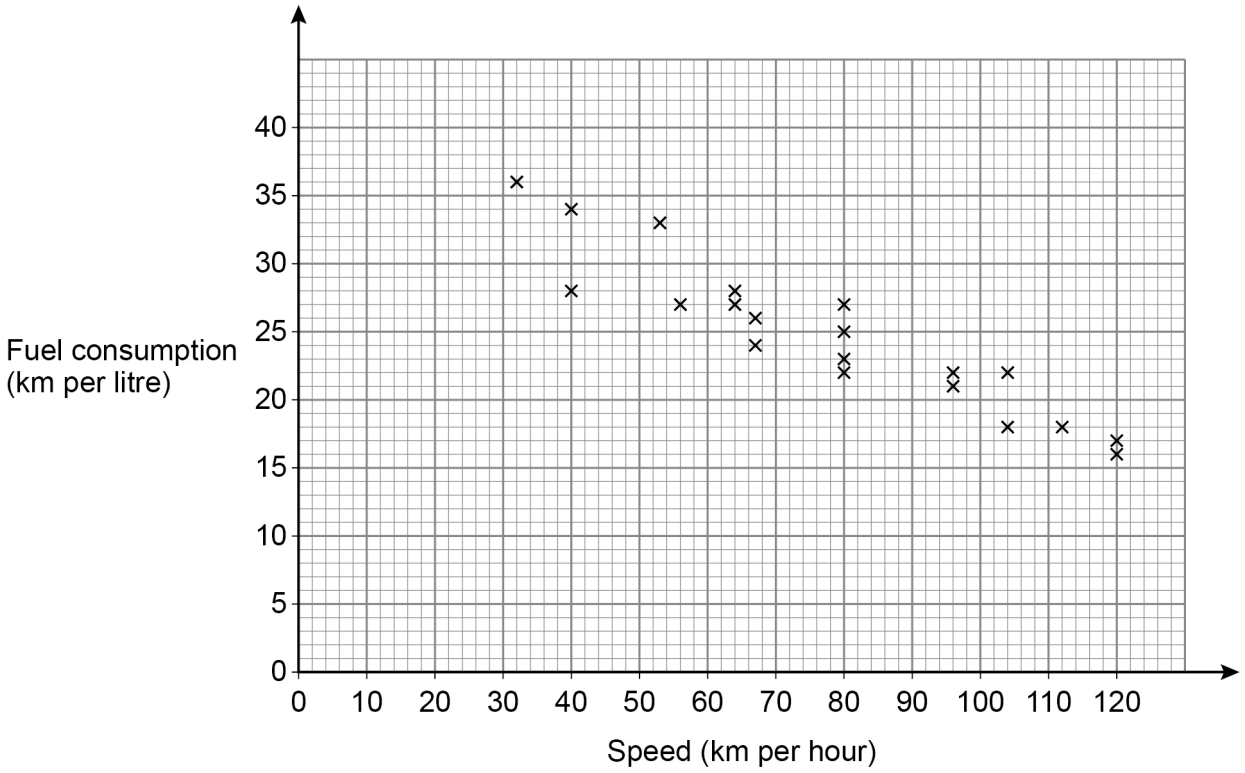
9

Turn over ►

Do not write outside the box

20 The fuel consumption of a new model of car is measured at different speeds.

The scatter graph shows the results.



20 (a) Describe the relationship between speed and fuel consumption shown by the graph.

[1 mark]

20 (b) Draw a line of best fit on the scatter graph.

[1 mark]

20 (c) Use your line to estimate the fuel consumption of a car travelling at 46 km per hour.

[1 mark]

Answer _____ km per litre

Do not write outside the box

21 There are 3150 houses in a town.

The ratio of detached houses to other houses is 1 : 4

250 new houses will be built.

The ratio of detached houses to other houses will then be 1 : 3

How many new detached houses will be built?

[3 marks]

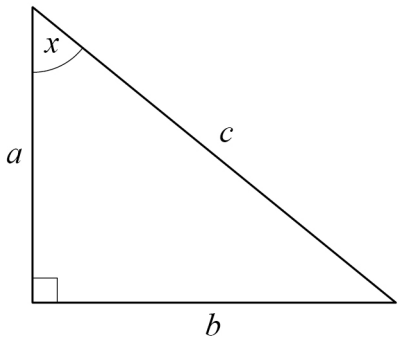
Answer _____

Turn over for the next question

6

Do not write outside the box

22 (a)



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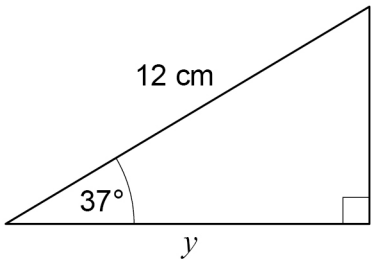
Circle the expression equal to tan x

[1 mark]

$\frac{a}{b}$ $\frac{a}{c}$ $\frac{b}{a}$ $\frac{b}{c}$

22 (b) Use trigonometry to work out the value of y.



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[2 marks]

Answer _____ cm

Do not write outside the box

23 Two triangles each have angles of 51°, 34° and 95°

One triangle is larger than the other.

Circle the word that describes the triangles.

[1 mark]

congruent similar corresponding regular

24 The price of a watch increases from $160 to $194

Work out the percentage increase in the price.

[3 marks]

Answer _____ %

Turn over for the next question

7

Do not write outside the box

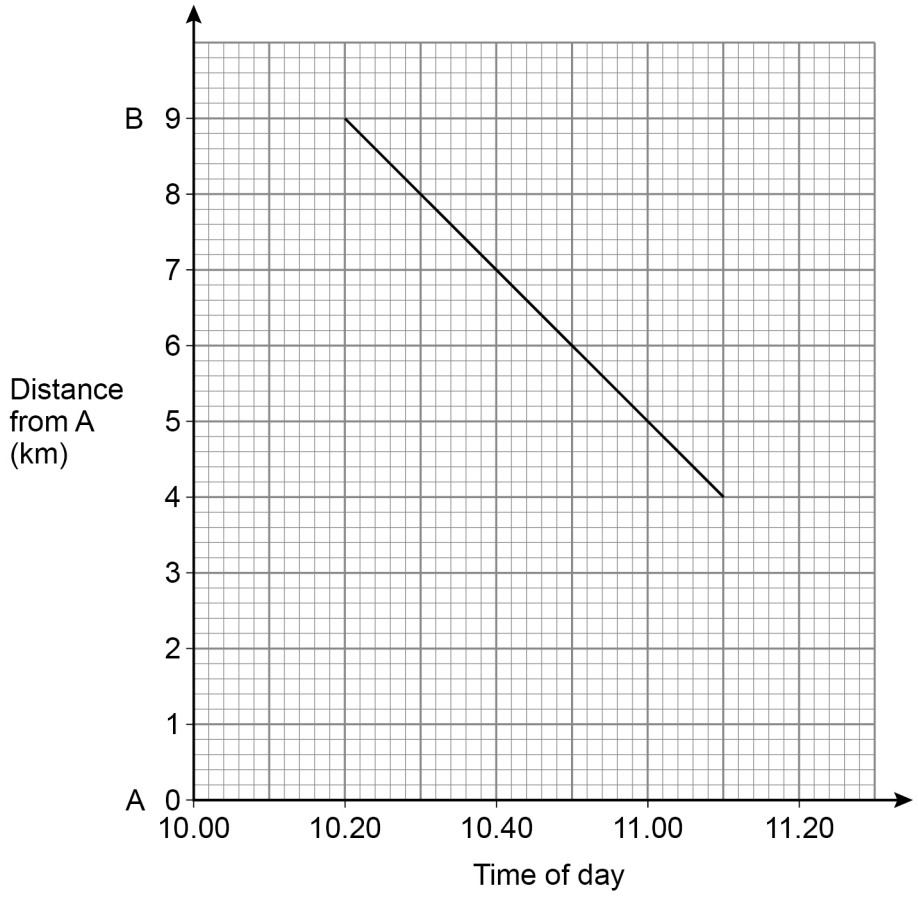
25 Two villages, A and B, are connected by a road of length 9 km

Sabine left B at 10.20, running towards A at a speed of 6 km/h
A distance-time graph for Sabine is shown on the grid.

Nadia left A at 10.00, walking towards B at a speed of 5 km/h
After walking 4 km she stopped and waited for Sabine to arrive.

25 (a) On the same grid, draw a distance-time graph for Nadia.

[3 marks]



25 (b) Use the two graphs to work out how long Nadia waited for Sabine to arrive.

[1 mark]

Answer _____ minutes

Do not write outside the box

26 The table shows information about the widths of 80 picture frames.

Width, w (cm)	**Frequency**	**Midpoint**	
$20 \leqslant w < 30$	18		
$30 \leqslant w < 40$	20		
$40 \leqslant w < 50$	33		
$50 \leqslant w < 60$	9		
	Total = 80		

Work out an estimate of the mean width.

[3 marks]

Answer _____ cm

Turn over for the next question

7

Do not write outside the box

27 $x^c \div x^4 = x^6 \times x^8$

Work out the value of c.

[2 marks]

Answer _____

28 Simplify fully $\frac{5x-6}{3} + \frac{7x+4}{2}$

[3 marks]

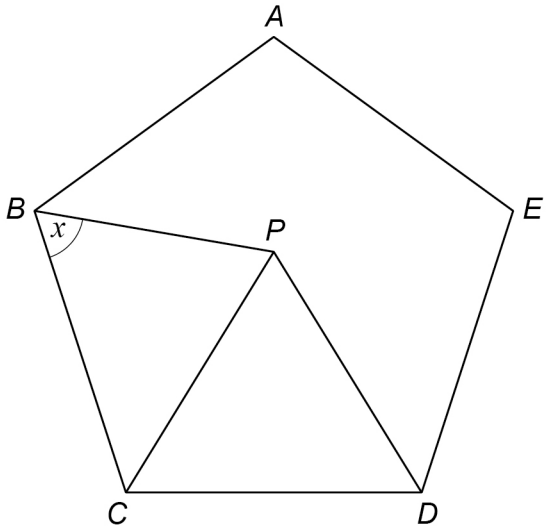
Answer _____

Do not write outside the box

29 *ABCDE* is a regular pentagon.

CPD is an equilateral triangle.

Angle $CBP = x$



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Work out the size of angle x.

[5 marks]

Answer _____ °

END OF QUESTIONS

10

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ANSWER IN THE SPACES PROVIDED

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Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

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