

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

Forename(s)

Candidate signature

GCSE MATHEMATICS

Grades 3-4

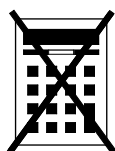
Non-calculator Test 2

Time allowed: 1 hour

Materials

For this paper you must have:

- mathematical instruments.



You must **not** use a calculator.

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.
- 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 45.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.

Advice

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

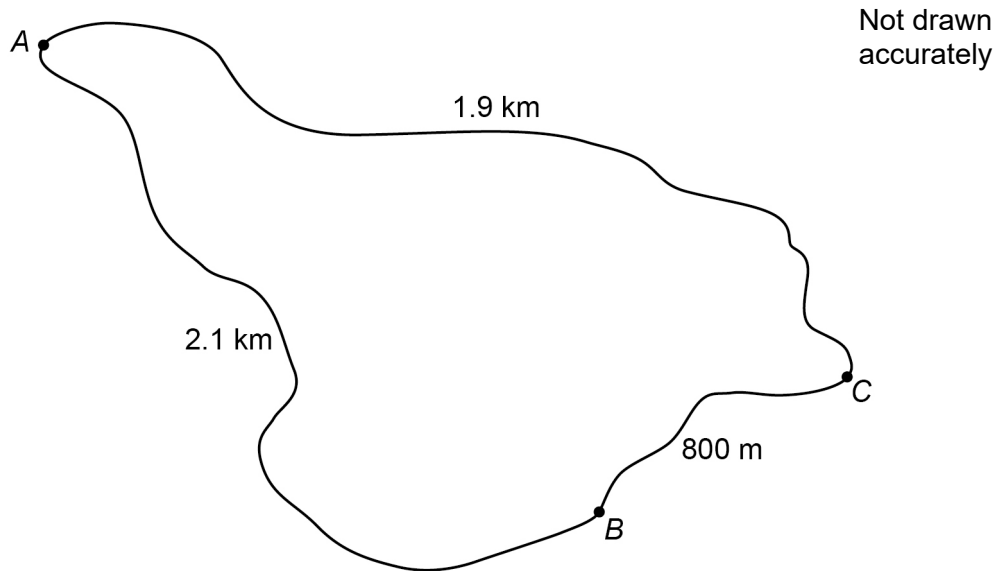
For Examiner's Use	
Pages	Mark
2-3	
4-5	
6-7	
8-9	
10-11	
12	
TOTAL	

Answer **all** questions in the spaces provided

1

A , B and C are connected by paths.

The length of each path is shown.



Nathan and Sue each walk from A to B .

Nathan walks along the path $A \rightarrow B$

Sue walks along the paths $A \rightarrow C \rightarrow B$

How much **further** does Sue walk than Nathan?

Give your answer in kilometres.

[3 marks]

Answer _____ km



2 You are given that $4a - 2b = 10$

2 (a) Write down the value of $2a - b$

[1 mark]

Answer _____

2 (b) Write down the value of $2b - 4a$

[1 mark]

Answer _____

3 Circle the percentage that is closest in value to $\frac{1}{3}$

[1 mark]

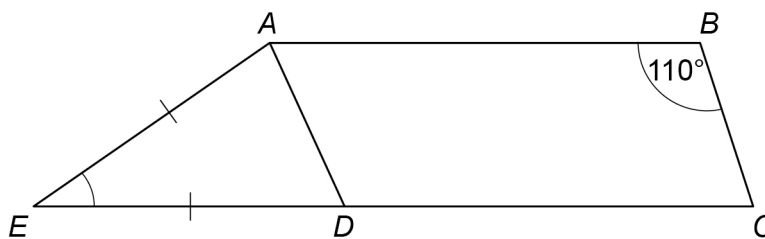
30%

33%

33.3%

33.4%

4 Trapezium $ABCE$ is made from parallelogram $ABCD$ and isosceles triangle ADE .
 $AE = DE$



Not drawn
accurately

Work out the size of angle AED .

[3 marks]

Answer _____ degrees



5 Work out $\frac{1}{4} + 0.5$

Circle your answer.

[1 mark]

0.30

0.6

0.75

0.9

6 Divide 405 in the ratio 4 : 11

[3 marks]

Answer _____ and _____

7 Solve $\frac{2x}{5} = 14$

[2 marks]

$x =$ _____

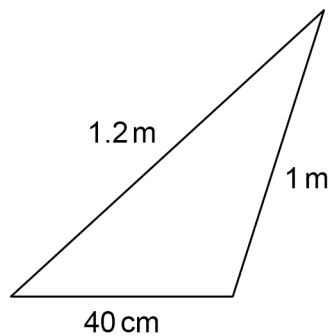


- 8 Work out $80\,000\,000 \div 200$
Give your answer in standard form.

[2 marks]

Answer _____

- 9 (a) Here is a triangle.



Not drawn
accurately

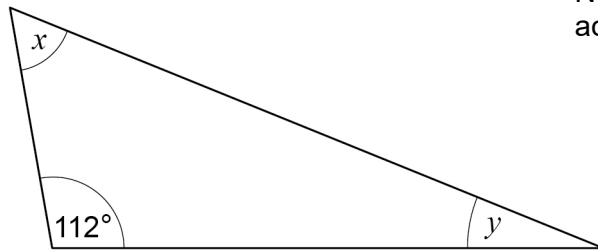
Work out $\frac{\text{length of shortest side}}{\text{length of longest side}}$

Give your answer as a fraction in its simplest form.

[2 marks]

Answer _____

- 9 (b) Here is a different triangle.



Not drawn
accurately

$$x = 3y$$

Work out the size of angle y .

[3 marks]

$$y = \text{_____}^\circ$$

- 10 Circle the number that is closest in value to $\sqrt{50}$

[1 mark]

5

7

8

25

- 11 Work out $\frac{2}{7} + \frac{6}{7}$

Circle your answer.

[1 mark]

$1\frac{1}{7}$

$\frac{8}{14}$

$\frac{8}{49}$

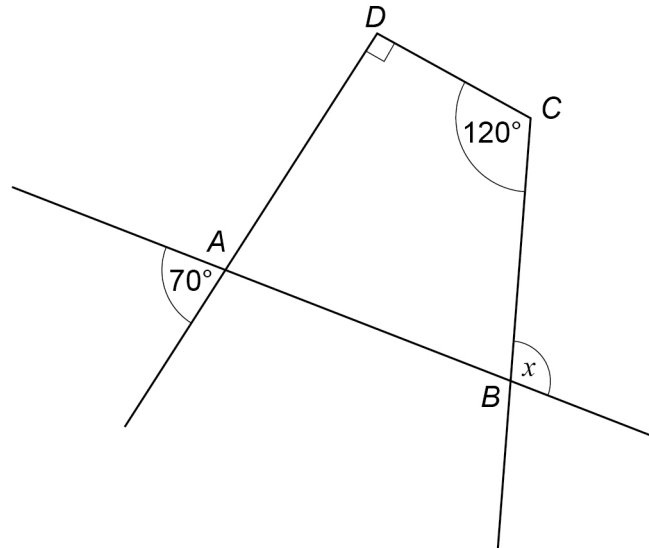
$1\frac{5}{7}$



12

 $ABCD$ is a quadrilateral.

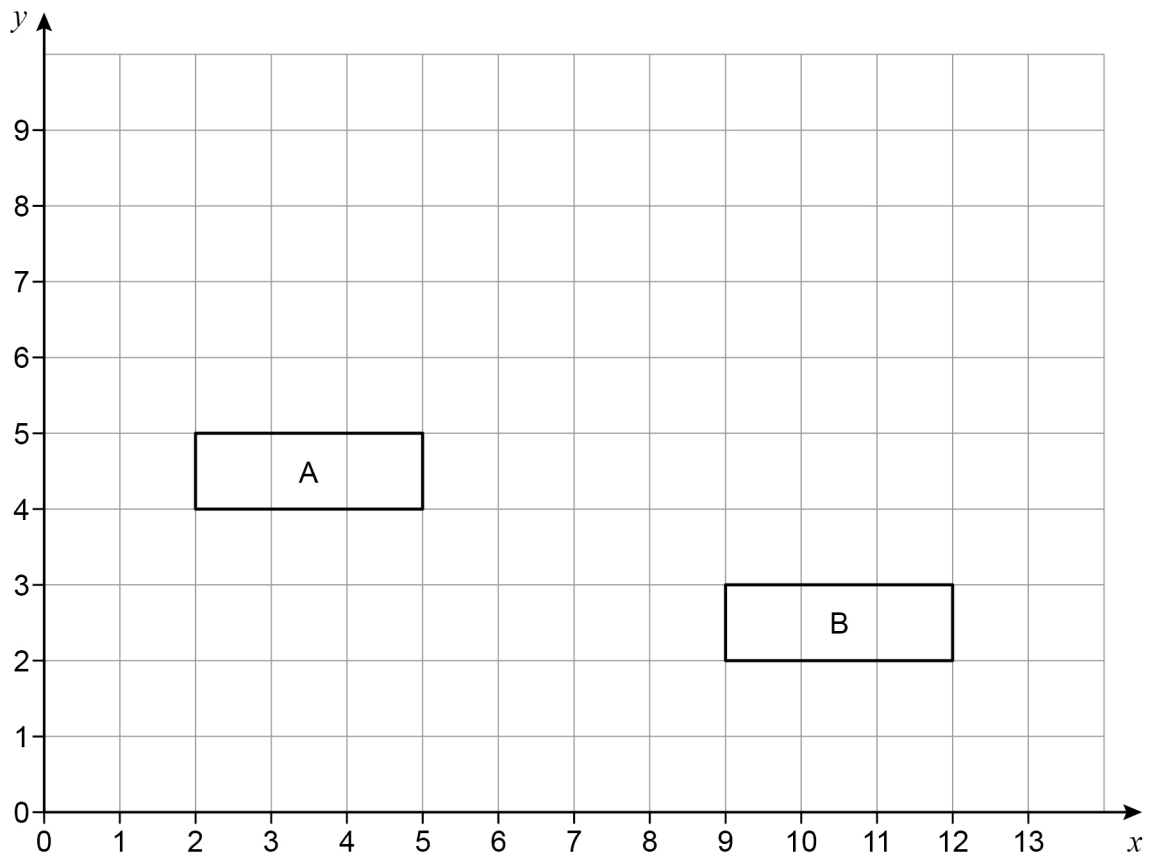
Sides are extended as shown.

Not drawn
accuratelyShow that $x = 100^\circ$ **[3 marks]**



- 13** Work out $\sqrt{121} - (13 - 5 \times 2)^2$ **[3 marks]**

Answer _____

14

Work out the vector that translates shape A to shape B.

[2 marks]

Answer

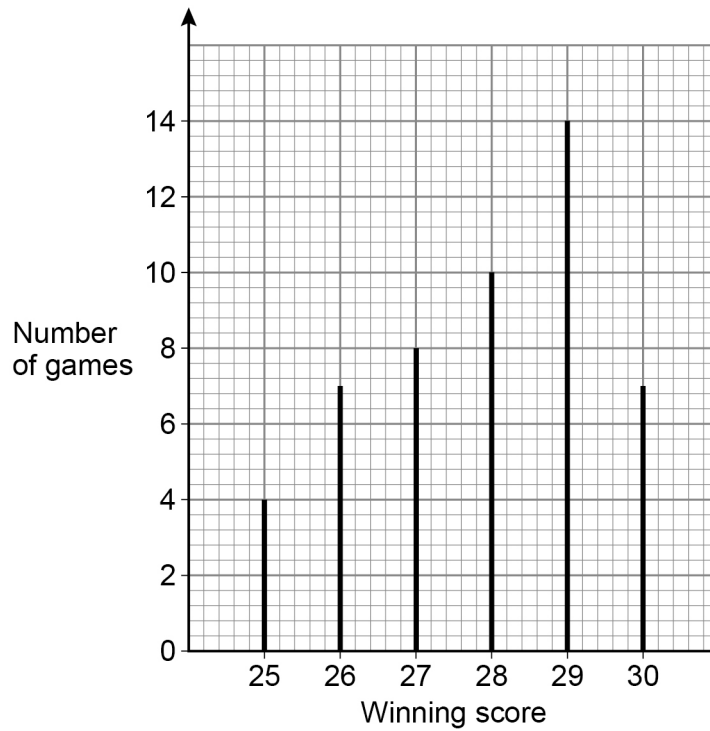
()



15

A game is played 50 times.

The vertical line chart shows the winning scores.



Use the chart to estimate the probability that the winning score is 27 or more.

[2 marks]

Answer _____

16

Multiply out and simplify $(x + 5)(x - 1)$

[2 marks]

Answer _____



17

A large rectangle is made by joining three identical small rectangles as shown.



Not drawn
accurately

The perimeter of one small rectangle is 15 cm

Work out the perimeter of the large rectangle.

[4 marks]

Answer _____ cm



- 18** Put these numbers in order from smallest to largest.

8×10^{-4}

4×10^{-2}

6×10^{-4}

0.07

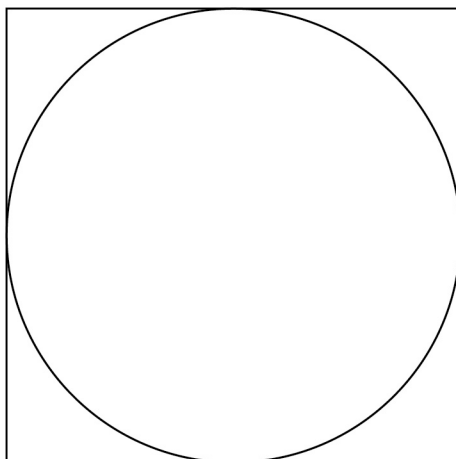
[2 marks]

Smallest _____

Largest _____



19 Here is a circle touching a square.



Not drawn
accurately

The area of the square is 64 cm^2

Work out the area of the circle.

Give your answer in terms of π .

[3 marks]

Answer _____ cm^2

3

END OF QUESTIONS

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