

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 2-3

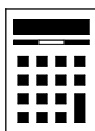
Calculator Test 1

Time allowed: 1 hour

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 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 48.
- 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	
12-13	
14	
TOTAL	

Answer **all** questions in the spaces provided

- 1 Which is longer, $\frac{3}{4}$ of a day or 1000 minutes?

You **must** show your working.

[3 marks]

Answer _____



- 2** Two shops sell bottles of apple juice.

Shop X

pack of 4 bottles

Was £2.50

Now 10% off

Shop Z

pack of 12 bottles

£7

At which shop is it cheaper to buy 24 bottles?

Show working to support your answer.

[4 marks]

Answer _____

- 3** Solve $4x - 3 = 14$

[2 marks]

$x =$ _____

Turn over ►



- 4 Circle the decimal that is greater than $\frac{3}{10}$ and less than $\frac{2}{5}$ [1 mark]

0.32

0.035

0.4

0.24

- 5 Here is a formula.

$$T = n^2 - \frac{12}{n}$$

Work out T when $n = 5$

[1 mark]

Answer _____

- 6 Zoe is thinking of a number.

$$\frac{3}{10} \text{ of } 90 = \frac{1}{2} \text{ of her number}$$

What number is she thinking of?

[3 marks]

Answer _____



28 is increased by 25%
40 is decreased by 15%
Which answer is bigger?
Show how you decide.

Multiply out $x(x - 4)$
Circle your answer.

$$-3x^2$$

Turn over ►



9 (a) Write $1\frac{4}{9}$ as an improper fraction.

[1 mark]

Answer _____

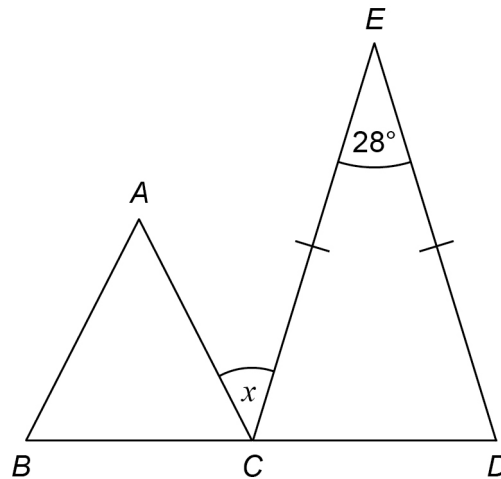
9 (b) Round 2.84 to 1 decimal place.

[1 mark]

Answer _____



10

 BCD is a straight line.Triangle ABC is equilateral. $CE = DE$ Not drawn
accuratelyWork out the size of angle x .**[4 marks]**

Answer _____ degrees



11

Harry and Ellie each bought a printer and a hard drive.
Here is some information about how much they paid.

	Printer	Hard drive
Harry	£80	£25
Ellie	10% less than Harry	20% more than Harry

Ellie says,

“In total, I paid more than Harry because 20% is greater than 10%”

Is she correct?

Tick a box.

Yes

☐

No

☐

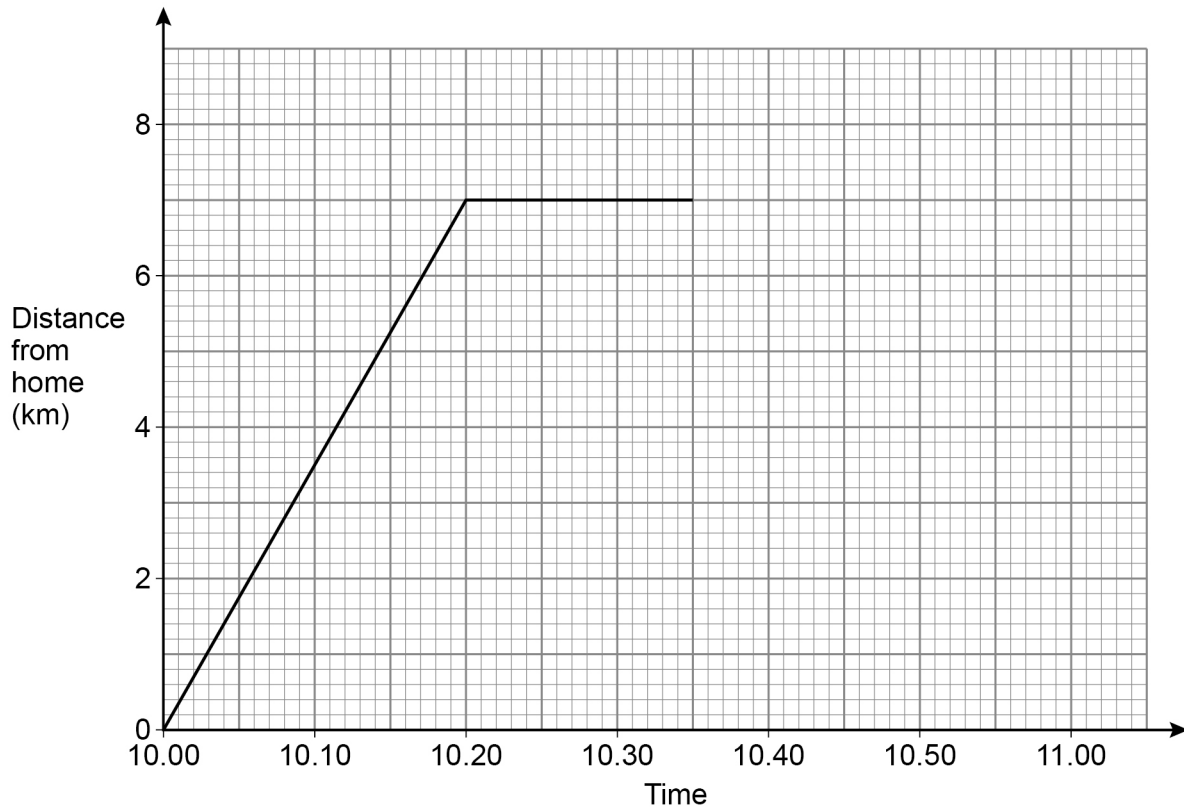
Show calculations to support your answer.

[2 marks]

12

Scarlett leaves home at 10.00 to cycle to the supermarket.

Here is part of a distance-time graph of her trip to the supermarket.



Scarlett cycles home at a constant speed using the same route.

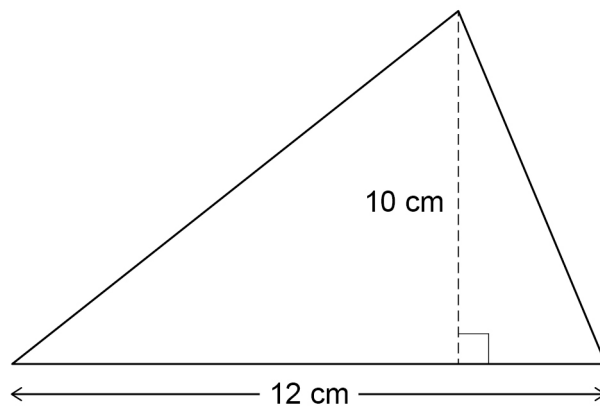
It takes her 3 minutes longer than her journey to the supermarket.

Complete the distance-time graph.

[2 marks]

13

A force of 180 newtons (N) is applied to the surface of this triangle.



Not drawn
accurately

Work out the pressure.

Use $\text{pressure} = \frac{\text{force}}{\text{area}}$

[3 marks]

Answer _____ N/cm²

- 14** There are 720 boys and 700 girls in a school.

The probability that a boy chosen at random studies French is $\frac{2}{3}$

The probability that a girl chosen at random studies French is $\frac{3}{5}$

Work out the number of students in the school who study French.

[3 marks]

Answer _____

- 15** Nihal has savings of £168

He uses $\frac{5}{7}$ of his savings to buy sports equipment.

Assume that he will use $\frac{1}{3}$ of the **rest** of the money to buy a shirt.

How much of his savings, in £, will he have left?

[3 marks]

Answer £ _____

9

Turn over ►



16

Kai says that $3 : 2$ is an equivalent ratio to $9 : 6$

Jo says that $1.5 : 1$ is an equivalent ratio to $9 : 6$

Who is correct?

Tick **one** box.

☐

Both of them

☐

Kai only

☐

Jo only

☐

Neither of them

Give reasons for your answer.

[2 marks]

17

A school play takes place each day from Monday to Friday.

Here are the attendances on four of the days.

Monday	Tuesday	Wednesday	Thursday
72	83	88	97

For all **five** days, the mean attendance is 90

Work out the attendance on Friday.

[3 marks]

Answer _____

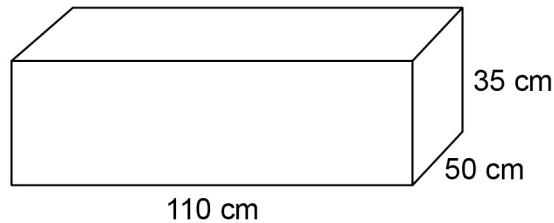
- 18** Eva thinks she can save water by having a shower instead of a bath.

Eva's shower

uses 10.8 litres per minute

lasts for 8 minutes.

Eva assumes that the water in her bath is in the shape of this cuboid.



$1000 \text{ cm}^3 = 1 \text{ litre}$

Using Eva's assumption, work out how many litres of water she saves by having a shower instead of a bath.

[5 marks]

Answer _____ litres

5

END OF QUESTIONS

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