Half paper C11

Paper 2 style · Calculator · Foundation

36 marks
about 35–40 minutes

Name	Date	Score / 36

Answer ALL questions. Write your answers in the spaces provided. You must write down all the stages in your working. You may use a calculator. Diagrams are **NOT** accurately drawn unless it says so.

Help on the longer questions

Underlined words tell you what the question wants.

Remember reminds you of a fact you need.

1 **Write** the number 14 499 **correct to the nearest thousand**.

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(1)

(Total for Question 1 is 1 mark)

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2 **Write** 1.05 as a percentage.

..... %

(1)

(Total for Question 2 is 1 mark)

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3 **Find** the value of 7^4

.....

(1)

(Total for Question 3 is 1 mark)

Turn over ►

4 Here is a list of numbers.

2 8 5 9 6 8

> **Remember** Mean = total ÷ how many. Median = middle value when in order. Mode = most common. Range = biggest − smallest.

(a) **Work out** the median.

.....

(2)

(b) Ana has five cards.
There is a number on each card.
Two of the numbers are hidden.

[4] [?] [9] [6] [?]

The mode of the five numbers is 4
The mean of the five numbers is 6
Work out the two numbers that are hidden.

(2)

(Total for Question 4 is 4 marks)

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5 Here is the charge at a car park in France.

Car park
0.03 euros per minute

Ali parked his car in this car park.
Ali drove into the car park at 09 25
When he drove out of the car park he had to pay 9.30 euros.
At what time did Ali drive out of the car park?

> **Remember** Change hours to minutes (× 60), then multiply by the cost per minute.

.....

(3)

(Total for Question 5 is 3 marks)

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6 **Find** the number that is exactly halfway between $\frac{1}{5}$ and $\frac{7}{10}$

.....

(2)

(Total for Question 6 is 2 marks)

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7 A shop sells sand in 25 kg bags and in 40 kg bags.
One day the shop had two special offers for the sand.

25 kg	**40 kg**
3 bags for £8.40	2 bags for £9

Which offer is the better value for money?
You must show how you get your answer.

> **Remember** Find the cost of the same amount for each one (e.g. per 100 g or per item), then compare. Write a conclusion.

(3)

(Total for Question 7 is 3 marks)

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8 The length of a bus is 12.6 metres.
Sam buys a scale model of the bus.
The scale of the model is 1 : 36
Work out the length of the scale model of the bus.
Give your answer in centimetres.

> **Remember** Real distance = map distance × scale. 100 cm = 1 m, 1000 m = 1 km (100 000 cm = 1 km).

..... centimetres

(3)

(Total for Question 8 is 3 marks)

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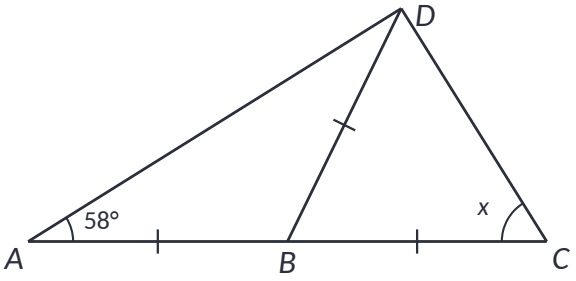
9 Kai invests £3800 in a savings account for 4 years.
The account pays simple interest at a rate of 2.5% per year.
Work out the total amount of interest Kai gets by the end of the 4 years.

£ .....

(2)

(Total for Question 9 is 2 marks)

10



ABC is a straight line.
AB = *BC* = *BD*.
Angle *DAB* = 58°
Work out the size of the angle marked *x*.
Give a reason for each stage of your working.

> **Remember** Straight line = 180°. Around a point = 360°. Triangle = 180°. Quadrilateral = 360°. Isosceles: two equal base angles. Write the reason for each angle.

..... °

(4)

(Total for Question 10 is 4 marks)

11 Here are the ingredients needed to make 12 flapjacks.

Flapjacks
Ingredients to make **12** flapjacks
150 g of oats
90 g of butter
60 g of syrup

Mia has

500 g of oats
270 g of butter
240 g of syrup

Work out the greatest number of flapjacks Mia can make.

> **Remember** Find the value for 1 first (÷), then multiply. Inverse proportion: more workers → less time (× then ÷).

.....

(3)

(Total for Question 11 is 3 marks)

12 Amy is n years old.
Ben is three times as old as Amy.
Cal is four years younger than Amy.
The total of Amy's age, Ben's age and Cal's age is T years.

> **Remember** Put the numbers in place of the letters, using brackets for negatives. Then follow BIDMAS.

(a) **Find** a formula for T **in terms of n**.

.....

(3)

(b) In the table below, put a tick (✓) in the box next to the identity.

$4t - 1 = 11$	
$2a + 5b$	
$V = lwh$	
$6m - 2m = 4m$	
$y + 3 < 10$	

(1)

(Total for Question 12 is 4 marks)

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13 Tom and Ella have a total of 200 stickers.
The ratio of the number of Tom's stickers to the number of Ella's stickers is 2 : 3
Tom buys some stickers from Ella.
The ratio of the number of Tom's stickers to the number of Ella's stickers is now 1 : 1
How many stickers does Tom buy from Ella?
You must show all your working.

> **Remember** Add the ratio parts to find the total number of parts. One part = amount ÷ total parts. Then multiply.

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(4)

(Total for Question 13 is 4 marks)

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14 **Write** 0.000 47 **in standard form**.

.....

(1)

(Total for Question 14 is 1 mark)

TOTAL FOR PAPER IS 36 MARKS

C11 mark scheme

Q		Answer	Mark	Notes
1		14 000	B1	
2		105	B1	
3		2401	B1	
4	(a)	7	M1 A1	M1 for ordering the numbers A1 cao
	(b)	4 and 7	M1 A1	M1 for total = 30 or one hidden number is 4 A1 for 4 and 7
5		14 35	M1 M1 A1	M1 for 9.30 ÷ 0.03 (= 310 minutes) M1 for 310 minutes = 5 h 10 min A1 for 14 35 or 2.35 pm
6		$\frac{9}{20}$ or 0.45	M1 A1	M1 for 0.2 and 0.7 or a common denominator A1 oe
7		25 kg bags (11.2p per kg compared with 11.25p per kg)	M1 M1 C1	M1 for 8.40 ÷ 75 or 9 ÷ 80 M1 for both in a comparable form C1 25 kg offer with correct figures
8		35	M1 M1 A1	M1 for 12.6 ÷ 36 (= 0.35 m) M1 for × 100 A1 cao
9		380	M1 A1	M1 for 3800 × 0.025 (= 95) A1 cao
10		32	M1 M1 M1 C1	M1 angle *ADB* = 58° (base angles of an isosceles triangle) M1 angle *DBC* = 116° (exterior angle or angles on a straight line) M1 for (180 − 116) ÷ 2 C1 reasons given
11		36	M1 M1 A1	M1 for dividing each amount by the recipe amount (3.3..., 3, 4) M1 for the smallest (3) × 12 A1 cao

Mark scheme continues ►

Q		Answer	Mark	Notes
12	(a)	$T = 5n - 4$	M1 M1 A1	M1 for $n + 3n + n - 4$ M1 for $5n - 4$ A1 for $T = 5n - 4$
	(b)	$6m - 2m = 4m$	B1	
13		20	M1 M1 M1 A1	M1 for $200 \div 5$ (= 40) M1 for Tom has 80 at first M1 for Tom has 100 after A1 cao
14		4.7×10^{-4}	B1	

B1 = mark for a correct answer · **M1** = method mark · **A1** = accurate answer after M1 · **C1** = reason · **cao** = correct answer only

Score ____ / 36