Half paper N8

Paper 1 style · Non-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 must **not** 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** $\frac{9}{10}$ as a percentage.

..... %

(1)

(Total for Question 1 is 1 mark)

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2 **Write** $\frac{3}{100}$ as a decimal.

.....

(1)

(Total for Question 2 is 1 mark)

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3 **Write** 285 **correct to the nearest ten**.

.....

(1)

(Total for Question 3 is 1 mark)

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4 Ella buys

1 sandwich for £2.40
1 drink for 85p
2 bags of crisps for 65p each bag

Ella pays with a £10 note.
She says,

"I should get £5.65 change."

Is Ella correct?
You must show how you get your answer.

> **Remember** Change = money paid − total cost. Add up all the costs first.

(3)

(Total for Question 4 is 3 marks)

5 The pictogram shows information about the number of books sold in a shop on Monday, on Tuesday and on Wednesday.

Monday	● ●
Tuesday	● ● ◔
Wednesday	● ◔
Thursday	
Friday	

Key: ● represents 8 books

Remember Check the key: what does one symbol stand for? A part symbol is a fraction of that.

(a) How many books were sold on Monday?

.....

(1)

(b) More books were sold on Tuesday than on Wednesday.
How many more?

.....

(2)

(c) On Thursday and Friday, a total of 40 books were sold in the shop.
$\frac{1}{4}$ of these 40 books were sold in the shop on Thursday.
Complete the pictogram for Thursday and Friday.

(3)

(Total for Question 5 is 6 marks)

6 A number sequence starts 2 4 8

Tom says that the next term is 14

> **Remember** Find the difference between terms. nth term = difference × n + (first term − difference).

(a) **Explain why** Tom may be correct.

(1)

(b) Here are the first four terms of the sequence of square numbers.

1 4 9 16

Find the 9th term of this sequence.

.....

(2)

(Total for Question 6 is 3 marks)

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7 3 kg of apples cost £2.10

3 kg of apples and 5 kg of potatoes cost a total of £4.60

Work out the total cost of 2 kg of apples and 6 kg of potatoes.

You must show all your working.

> **Remember** Write down each cost or amount as you work it out, then add them up. Write money with 2 decimal places (£4.50). 100p = £1.

£ .....

(4)

(Total for Question 7 is 4 marks)

8

> **Remember** Expand: multiply every term inside the bracket. Factorise: take out the highest common factor. Quadratics: two numbers that multiply to the last term and add to the middle.

(a) **Expand** $3(m + n)$

.....

(1)

(b) **Factorise** $4y^2 - 9y$

.....

(1)

(c) **Solve** $3x + 8 = 35$

$x =$ .....

(2)

(Total for Question 8 is 4 marks)

9 Priya wants to make some cookies using this recipe.

Makes 10 cookies
150 g butter
250 g flour
40 g sugar

Priya thinks that she has

600 g butter
900 g flour
140 g sugar

Assuming that these weights are correct,

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

(a) work out the greatest number of cookies Priya can make.
You must show all your working.

.....

(4)

(b) Priya is wrong.
She has more than 140 g of sugar.
Does this affect the greatest number of cookies Priya can make?
Give a reason for your answer.

(1)

(Total for Question 9 is 5 marks)

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10 Ruby buys a bike for £120
She sells the bike for £90
Work out her percentage loss.

> **Remember** Percentage change = change ÷ original × 100. Multipliers: increase by 5% → × 1.05, decrease by 5% → × 0.95.

..... %

(3)

(Total for Question 10 is 3 marks)

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11 **Work out** $5\frac{1}{4} - 2\frac{2}{3}$

Give your answer **as a mixed number**.

> **Remember** Add/subtract: make the denominators the same. Multiply: top × top, bottom × bottom. Divide: flip the second fraction and multiply. Change mixed numbers to top-heavy first.

.....

(3)

(Total for Question 11 is 3 marks)

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12 Ryan measured the length of a pen as 8.4 cm **correct to 1 decimal place**.

Complete the error interval for the length, p cm, of the pen.

..... ≤ p < .....

(2)

(Total for Question 12 is 2 marks)

TOTAL FOR PAPER IS 36 MARKS

N8 mark scheme

Q		Answer	Mark	Notes
1		90	B1	
2		0.03	B1	
3		290	B1	
4		No: she should get £5.45	M1 M1 C1	M1 for 2.40 + 0.85 + 2 × 0.65 (= 4.55) M1 for 10 − 4.55 C1 No with 5.45
5	(a)	16	B1	
	(b)	12	M1 A1	M1 for 22 or 10 A1 cao
	(c)	Thursday 1¼ circles (10), Friday 3¾ circles (30)	M1 A1 A1	M1 for 40 ÷ 4 (= 10) A1 for Thursday correct A1 for Friday correct
6	(a)	The differences could be +2, +4, +6, so the next term is 8 + 6 = 14	C1	C1
	(b)	81	M1 A1	M1 for 9 × 9 or continuing the sequence A1 cao
7		4.40	M1 M1 M1 A1	M1 for 2.10 ÷ 3 (= 0.70) M1 for (4.60 − 2.10) ÷ 5 (= 0.50) M1 for 2 × 0.70 + 6 × 0.50 A1 cao
8	(a)	$3m + 3n$	B1	
	(b)	$y(4y - 9)$	B1	
	(c)	9	M1 A1	M1 for $3x = 27$ A1 cao

Mark scheme continues ►

Q		Answer	Mark	Notes
9	(a)	**35**	**M1** **M1** **M1** **A1**	M1 for 600 ÷ 150 (= 4) or 900 ÷ 250 (= 3.6) or 140 ÷ 40 (= 3.5) M1 for all three M1 for 3.5 × 10 A1 cao
	(b)	**It could: she may be able to make more (up to 36, then flour runs out)**	**C1**	C1
10		**25**	**M1** **M1** **A1**	M1 for 120 − 90 (= 30) M1 for 30 ÷ 120 × 100 A1 cao
11		**$2\frac{7}{12}$**	**M1** **M1** **A1**	M1 for 21/4 and 8/3 M1 for 63/12 − 32/12 A1 cao
12		**$8.35 \leq p < 8.45$**	**B1** **B1**	B1 for each

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

Score ____ / 36

Write your score on the front page