Half paper N7

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** the following numbers in order of size.
Start with the smallest number.

0.8 0.08 0.88 0.808

.....

(1)

(Total for Question 1 is 1 mark)

---

2 **Write** 12.49 **correct to the nearest whole number**.

.....

(1)

(Total for Question 2 is 1 mark)

---

3 **Write** $\frac{7}{8}$ as a decimal.

.....

(1)

(Total for Question 3 is 1 mark)

Turn over ►

4 Ali has 16 parcels.

$\frac{1}{4}$ of these 16 parcels are large.

The rest of these 16 parcels are small.

Each large parcel has a weight of 80 grams.

Each small parcel has a weight of 60 grams.

Work out the total weight of the 16 parcels.

> **Remember** Fraction of an amount: ÷ by the bottom, × by the top. Percentage: 10% = ÷ 10, 1% = ÷ 100, or use a multiplier (35% = 0.35).

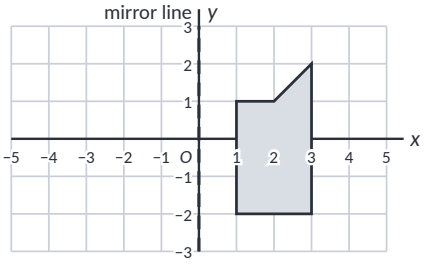
..... grams

(4)

(Total for Question 4 is 4 marks)

---

5 On the grid, reflect the shaded shape in the mirror line.



(2)

(Total for Question 5 is 2 marks)

---

6 Here is a number machine.



Remember Go forwards through the machine for the output. To find the input, work backwards using the inverse (× becomes ÷).

(a) **Find** the output when the input is 9

.....

(1)

(b) **Find** the input when the output is 35

.....

(2)

(Total for Question 6 is 3 marks)

---

7 Mo asked 40 students to tell him the sport they each like the best from football or netball or swimming.

12 of the 24 female students said netball.
3 of the male students said swimming.
14 students said football.

The number of female students who said football was the same as the number of female students who said swimming.

Complete the two-way table.

	Football	Netball	Swimming	Total
Male students				
Female students				24
Total				40

Remember Rows and columns add up to the totals. Fill in the easy gaps first, then use them to find the rest.

(3)

(Total for Question 7 is 3 marks)

---

8 The table gives information about the number of goals scored by each of 20 teams in a match.

Number of goals	Frequency
0	2
1	4
2	6
3	5
4	3

(a) Ben worked out the median of the number of goals to be 6
Explain why it is **not** possible for the median to be 6

(1)

(b) Ben also worked out the total number of goals scored.
Here is his working.

$$(0 \times 2) + (1 \times 4) + (2 \times 6) + (3 \times 5) + (4 \times 3) = 0 + 4 + 12 + 15 + 7 = 38$$

Describe the mistake that Ben made.

(1)

(Total for Question 8 is 2 marks)

---

9 In a shop, a laptop has a normal price of £600
The shop has a sale.
On Monday, the normal price of the laptop is reduced by $\frac{1}{10}$ to give the sale price.
On Tuesday, the sale price of the laptop is reduced by 25%
Ella wants to buy the laptop.
She has £400 to spend on the laptop.
Does Ella have enough money to buy the laptop on Tuesday?
You must show how you get your answer.

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

(5)

(Total for Question 9 is 5 marks)

---

10 **Work out** an estimate for $\frac{812 \times 297}{51}$

> **Remember** Round every number to 1 significant figure first, then work it out. Say if you rounded up or down.

.....

(3)

(Total for Question 10 is 3 marks)

11

> **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** $y(y + 6)$

.....

(1)

(b) **Factorise** $12w - 8$

.....

(1)

(c) **Solve** $5(k - 3) = 35$

$k =$ .....

(2)

(Total for Question 11 is 4 marks)

12 The first five terms of an arithmetic sequence are

2 7 12 17 22

Write down an expression, **in terms of *n***, for the *n*th term of this sequence.

.....

(2)

(Total for Question 12 is 2 marks)

13 Maya pays £12 for 24 cookies.
She sells all 24 cookies for 75p each.
Work out Maya's percentage profit.

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

.....%

(3)

(Total for Question 13 is 3 marks)

---

14 **Write** these numbers in order of size.
Start with the smallest number.

4.83×10^{3} 48.3×10^{-2} 483×10^{2} 0.00483

.....

(2)

(Total for Question 14 is 2 marks)

TOTAL FOR PAPER IS 36 MARKS

N7 mark scheme

Q		Answer	Mark	Notes
1		0.08, 0.8, 0.808, 0.88	B1	
2		12	B1	
3		0.875	B1	
4		1040	M1 M1 M1 A1	M1 for $\frac{1}{4} \times 16$ (= 4) M1 for 4 × 80 (= 320) M1 for 12 × 60 (= 720) A1 cao
5		Shape at (−1, −2), (−3, −2), (−3, 2), (−2, 1), (−1, 1)	B2	B2 (B1 for a reflection in another vertical line or 3 vertices correct)
6	(a)	23	B1	
	(b)	13	M1 A1	M1 for (35 + 4) ÷ 3 A1 cao
7		Male: 8, 5, 3, 16 Female: 6, 12, 6, 24 Total: 14, 17, 9, 40	B3	B3 all correct (B2 for 6 or more correct, B1 for 4 or more correct)
8	(a)	The median must be one of the numbers of goals (0 to 4); 6 is a frequency	C1	C1
	(b)	He worked out 4 × 3 as 7 instead of 12 (he added)	C1	C1
9		No: it costs £405 on Tuesday	M1 M1 M1 A1 C1	M1 for 600 ÷ 10 (= 60) M1 for 600 − 60 (= 540) M1 for 25% of 540 (= 135) A1 for 405 C1 No with 405
10		4800	M1 M1 A1	M1 for rounding to 800, 300, 50 M1 for 240 000 ÷ 50 A1 for 4800 (accept 4860 from 810)

Mark scheme continues ►

Q		Answer	Mark	Notes
11	(a)	$y^2 + 6y$	B1	
	(b)	$4(3w - 2)$	B1	
	(c)	$k = 10$	M1 A1	M1 for $5k - 15 = 35$ or $k - 3 = 7$ A1 cao
12		$5n - 3$	M1 A1	M1 for $5n + k$ A1 cao
13		50	M1 M1 A1	M1 for 24×0.75 (= 18) M1 for $(18 - 12) \div 12 \times 100$ A1 cao
14		0.00483, 48.3×10^{-2}, 4.83×10^{3}, 483×10^{2}	M1 A1	M1 for converting at least 2 to ordinary numbers A1 cao

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