



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Averages & Range · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Averages & Range

Total marks available: 66

● Averages & Range

✓11

Q1 · ● Developing · 2 marks

METHOD

$$\text{Mean} = (15 + 6 + 3 + 17 + 14) \div 5 = 55 \div 5 = 11$$

✓41

Q2 · ● Developing · 2 marks

METHOD

$$\text{Range} = 49 - 8 = 41$$

✓46

Q3 · ● Developing · 2 marks

METHOD

$$\text{Range} = 50 - 4 = 46$$

✓19

Q4 · ● Developing · 2 marks

METHOD

$$\text{Mean} = (28 + 20 + 12 + 2 + 23 + 28 + 20) \div 7 = 133 \div 7 = 19$$

✓43

Q5 · ● Developing · 2 marks

METHOD

$$\text{Range} = 48 - 5 = 43$$

✓34

Q6 · ● Developing · 2 marks

METHOD

$$\text{Range} = 44 - 10 = 34$$

✓31

Q7 · ● Developing · 2 marks

METHOD

$$\text{Range} = 37 - 6 = 31$$

✓26

Q8 · ● Developing · 2 marks

METHOD

$$\text{Range} = 32 - 6 = 26$$

✓36

Q9 · ● Developing · 2 marks

METHOD

$$\text{Range} = 38 - 2 = 36$$

✓34

Q10 · ● Developing · 2 marks

METHOD

$$\text{Range} = 48 - 14 = 34$$

✓14

Q11 · ● Secure · 1 mark

METHOD

14 appears most often (3 times) → mode = 14

✓19

Q12 · ● Secure · 1 mark

METHOD

19 appears most often (3 times) → mode = 19

✓30.5

Q13 · ● Secure · 2 marks

METHOD

Sorted: 15, 25, 28, 33, 37, 39

Median = $(28 + 33) \div 2 = 30.5$

✓17.5

Q14 · ● Secure · 2 marks

METHOD

Sorted: 3, 4, 5, 15, 20, 27, 33, 36

Median = $(15 + 20) \div 2 = 17.5$

✓31

Q15 · ● Secure · 2 marks

METHOD

Sorted: 13, 17, 31, 32, 36

Median (middle value) = 31

✓21.5

Q16 · ● Secure · 2 marks

METHOD

Sorted: 10, 14, 19, 20, 23, 26, 37, 39

Median = $(20 + 23) \div 2 = 21.5$

✓6

Q17 · ● Secure · 2 marks

METHOD

Sorted: 1, 3, 3, 9, 11, 22

Median = $(3 + 9) \div 2 = 6$

✓5

Q18 · ● Secure · 1 mark

METHOD

5 appears most often (3 times) → mode = 5

✓28

Q19 · ● Secure · 2 marks

METHOD

Sorted: 5, 11, 17, 28, 30, 33, 34

Median (middle value) = 28

✓16

Q20 · ● Secure · 1 mark

METHOD

16 appears most often (3 times) → mode = 16

✓21

Q21 · ● Greater Depth · 3 marks

METHOD

Total = $7 \times 6 = 42$

Missing value = $42 - 21 = 21$

✓12

Q22 · ● Greater Depth · 3 marks

METHOD

Total = $12 \times 4 = 48$

Missing value = $48 - 36 = 12$

✓2.2

Q23 · ● Greater Depth · 3 marks

METHOD

$$\Sigma(x \times f) = 0 \times 8 + 1 \times 2 + 2 \times 12 + 3 \times 8 + 4 \times 9 = 86$$

$$\Sigma f = 39$$

$$\text{Mean} = 86 \div 39 = 2.2$$

✓31

Q24 · ● Greater Depth · 3 marks

METHOD

$$\text{Total} = 17 \times 4 = 68$$

$$\text{Missing value} = 68 - 37 = 31$$

✓2.0

Q25 · ● Greater Depth · 3 marks

METHOD

$$\Sigma(x \times f) = 0 \times 6 + 1 \times 7 + 2 \times 9 + 3 \times 10 + 4 \times 5 = 75$$

$$\Sigma f = 37$$

$$\text{Mean} = 75 \div 37 = 2.0$$

✓1.6

Q26 · ● Greater Depth · 3 marks

METHOD

$$\Sigma(x \times f) = 0 \times 4 + 1 \times 9 + 2 \times 3 + 3 \times 2 + 4 \times 3 = 33$$

$$\Sigma f = 21$$

$$\text{Mean} = 33 \div 21 = 1.6$$

✓1.7

Q27 · ● Greater Depth · 3 marks

METHOD

$$\Sigma(x \times f) = 0 \times 7 + 1 \times 12 + 2 \times 11 + 3 \times 7 + 4 \times 4 = 71$$

$$\Sigma f = 41$$

$$\text{Mean} = 71 \div 41 = 1.7$$

✓2.1

Q28 · ● Greater Depth · 3 marks

METHOD

$$\Sigma(x \times f) = 0 \times 9 + 1 \times 8 + 2 \times 5 + 3 \times 10 + 4 \times 11 = 92$$

$$\Sigma f = 43$$

$$\text{Mean} = 92 \div 43 = 2.1$$

✓19

Q29 · ● Greater Depth · 3 marks

METHOD

$$\text{Total} = 15 \times 5 = 75$$

$$\text{Missing value} = 75 - 56 = 19$$

✓7

Q30 · ● Greater Depth · 3 marks

METHOD

$$\text{Total} = 7 \times 6 = 42$$

$$\text{Missing value} = 42 - 35 = 7$$