NON-CALC B · MARK SCHEME

GCSE Mathematics · Foundation Tier

40 marks · 45 minutes · Non-calculator

M method **A** accuracy (depends on M) **B** independent **P** process **C** communication
oe or equivalent cao correct answer only ft follow through Accept any correct, fully justified method.

Question 1

Ordering decimals · N1 · Number · AO1 · 1 mark

QN	ANSWER	MARK	GUIDANCE
1	**0.06, 0.6, 0.606, 0.66**	**B1**	cao. Must start with the smallest

Question 2

Powers and roots · N6 · Number · AO1/2 · 2 marks

QN	ANSWER	MARK	GUIDANCE
2(a)	**125**	**B1**	cao
2(b)	**Explanation**	**C1**	e.g. 4^3 means 4 × 4 × 4 = 64, not 4 × 3; he has multiplied 4 by 3

Question 3

Function machines · A7 · Algebra · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
3(a)	**14**	**B1**	cao
3(b)	**9**	**B1**	cao (23 + 4 = 27, 27 ÷ 3 = 9)

Question 4

Pictograms · S2 · Statistics · AO1/2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
4(a)	**12**	**B1**	cao
4(b)	**2½ circles drawn for Thursday**	**B1**	Two full circles and a half circle in the Thursday row
4(c)	**10**	**B1**	cao (18 – 8)

Question 5

Decimal calculations · N2 · Number · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
5(a)	**3.35**	**B1**	cao
5(b)	**0.48**	**B1**	cao

Question 6

Percentage reduction · R9 · Ratio & proportion · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
6	**28**	**M1**	For 35 ÷ 10 × 2 (= 7) or 35 × 0.8
		A1	cao

Question 7

Angles in parallel lines · G3 · Geometry & measures · AO1/2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
7(a)	**65°**	**B1**	cao
	Corresponding angles are equal	**C1**	Accept 'corresponding'. Do not accept 'F angles' or 'alternate'
7(b)	**115°**	**B1**	ft 180 – their x

Question 8

Expand and factorise · A4 · Algebra · AO1 · 3 marks

QN	ANSWER	MARK	GUIDANCE
8(a)	**$3(2x + 5)$**	**B1**	cao
8(b)	**$5x - 4$**	**M1**	For $3x + 6$ or $2x - 10$ seen
		A1	cao

Question 9

Best buy · R1 · R10 · Ratio & proportion · AO3 · 3 marks

QN	ANSWER	MARK	GUIDANCE
9	**Pack B, with 45p and 42p per pen**	**P1**	For 135 ÷ 3 (= 45) or 210 ÷ 5 (= 42), or a common number of pens, e.g. 15 pens cost £6.75 and £6.30
		P1	For a complete method to compare both packs
		C1	For 'Pack B' with correct figures for both packs

Question 10

Probability tables · P4 · P5 · Probability · AO1/2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
10(a)	**0.3**	**M1**	For 1 – (0.2 + 0.35 + 0.15)
		A1	oe
10(b)	**70**	**B1**	cao (0.35 × 200)

Question 11

Perimeter and area · G16 · G17 · Geometry & measures · AO3 · 3 marks

QN	ANSWER	MARK	GUIDANCE
11	**50**	**P1**	For a correct start, e.g. 6 widths = 30 or $w + 2w + w + 2w = 30$
		P1	For width = 5 and length = 10
		A1	cao

Question 12

Error intervals · N15 · Number · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
12	**$7.25 \leq L < 7.35$**	**B2**	B1 for 7.25 and 7.35 seen, or for one end correct in an inequality

Question 13

Estimation · N14 · Number · AO1/2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
13(a)	**400**	**M1**	For rounding all three numbers to 1 significant figure, e.g. $\frac{5 \times 40}{0.5}$
		A1	cao
13(b)	**Overestimate, with reason**	**C1**	e.g. 4.87 and 39.6 were rounded up and 0.52 was rounded down, so the answer is too big

Question 14

Currency problem · R1 · N13 · Ratio & proportion · AO3 · 4 marks

QN	ANSWER	MARK	GUIDANCE
14	**Paris, by £2**	**P1**	For a correct method to convert, e.g. 96 ÷ 1.2 or 82 × 1.2 (= 98.4)
		A1	For £80 (or €98.40)
		P1	For a comparison in the same currency, e.g. 82 – 80
		C1	For 'Paris' with £2 cheaper

Question 15

Forming and solving equations · A21 · A17 · Algebra · AO2/3 · 4 marks

QN	ANSWER	MARK	GUIDANCE
15(a)	$x + 3 + 2x + 2x - 1$	C1	For adding the three sides and simplifying to $5x + 2$
15(b)	12	P1	For $5x + 2 = 32$
		P1	For $x = 6$
		A1	cao (sides are 9 cm, 12 cm and 11 cm)

Paper overview

Q	TOPIC	SPEC REF	STRAND	AO	MARKS
1	Ordering decimals	N1	Number	AO1	1
2	Powers and roots	N6	Number	AO1/2	2
3	Function machines	A7	Algebra	AO1	2
4	Pictograms	S2	Statistics	AO1/2	3
5	Decimal calculations	N2	Number	AO1	2
6	Percentage reduction	R9	Ratio & proportion	AO1	2
7	Angles in parallel lines	G3	Geometry & measures	AO1/2	3
8	Expand and factorise	A4	Algebra	AO1	3
9	Best buy	R1 · R10	Ratio & proportion	AO3	3
10	Probability tables	P4 · P5	Probability	AO1/2	3
11	Perimeter and area	G16 · G17	Geometry & measures	AO3	3
12	Error intervals	N15	Number	AO1	2
13	Estimation	N14	Number	AO1/2	3
14	Currency problem	R1 · N13	Ratio & proportion	AO3	4
15	Forming and solving equations	A21 · A17	Algebra	AO2/3	4
Total					**40**

Marks by strand

Number	**10 marks (25%)**
Algebra	**9 marks (22%)**
Ratio & proportion	**9 marks (22%)**
Geometry & measures	**6 marks (15%)**
Probability	**3 marks (8%)**
Statistics	**3 marks (8%)**

Marks by assessment objective

AO1	Standard techniques	**20 marks (50%)**
AO2	Reasoning	**7 marks (18%)**
AO3	Problem solving	**13 marks (32%)**