NON-CALC J · 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

Number facts · N10 · N4 · N6 · Number · AO1 · 3 marks

QN	ANSWER	MARK	GUIDANCE
1(a)	**60**	**B1**	cao
1(b)	**14 or 28**	**B1**	Either answer
1(c)	**3**	**B1**	cao

Question 2

Fraction of a group · R8 · N12 · Ratio & proportion · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
2	$\frac{5}{8}$	**M1**	For $\frac{20}{32}$ oe
		A1	cao

Question 3

Area and perimeter · G16 · G17 · Geometry & measures · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
3(a)	**14**	**B1**	cao
3(b)	**18**	**B1**	cao

Question 4

Writing expressions · A3 · A21 · Algebra · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
4	**15a + 40b**	**B2**	B1 for 15a or 40b in an expression. Accept $a \times 15 + b \times 40$

Question 5

Bar charts · S2 · Statistics · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
5	**Correct bar chart**	**B2**	Bars of heights 7, 5, 9, 4, equal widths and labelled. B1 for 3 bars correct, or all correct but unlabelled or of unequal widths

Question 6

Multiplying fractions · N8 · Number · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
6	$\frac{5}{14}$	**M1**	For $\frac{30}{84}$ oe, or cancelling before multiplying, e.g. $\frac{1}{2} \times \frac{5}{7}$
		A1	cao

Question 7

Using a known fact · N2 · N3 · Number · AO2 · 2 marks

QN	ANSWER	MARK	GUIDANCE
7(a)	**108.1**	**B1**	cao
7(b)	**230**	**B1**	cao

Question 8

Plans and elevations · G13 · Geometry & measures · AO1 · 2 marks

QN	ANSWER	MARK	GUIDANCE
8	**L-shape: 3 cm wide, left column 2 cm high, the rest 1 cm high**	**B2**	B1 for a 3 by 1 rectangle with one extra square in the wrong place, or for the correct shape with one error. Accept a reflection of the correct shape

Question 9

Probability · P3 · P4 · Probability · AO1/2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
9(a)	0.2	M1	For 1 – 0.4 (= 0.6)
		A1	oe, e.g. $\frac{1}{5}$
9(b)	20	B1	cao

Question 10

Gradient of a line · A9 · A8 · Algebra · AO1/2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
10(a)	2	M1	For $\frac{7-3}{2-0}$ oe, or a sketch showing rise 4 and run 2
		A1	cao
10(b)	No, with working	C1	e.g. the line is $y = 2x + 3$ and when $x = 5$, $y = 13$ not 14 (ft their gradient)

Question 11

Systematic counting · N5 · Number · AO3 · 2 marks

QN	ANSWER	MARK	GUIDANCE
11	7	P1	For recognising number of deals = 4 × number of drinks, e.g. 28 ÷ 4
		A1	cao

Question 12

Successive percentages · R9 · Ratio & proportion · AO2 · 3 marks

QN	ANSWER	MARK	GUIDANCE
12	**No, with £306**	**M1**	For 400 – 60 (= 340), or 400 × 0.85
		M1	For 340 – 34 (= 306), or 340 × 0.9
		C1	For 'No' with £306 compared with £300 for 25% off, or a total reduction of 23.5%

Question 13

Time series · S2 · Statistics · AO2 · 2 marks

QN	ANSWER	MARK	GUIDANCE
13(a)	**May and June**	**B1**	cao
13(b)	**Sales increase**	**B1**	Accept 'sales go up each month' oe

Question 14

Area of a trapezium · G16 · Geometry & measures · AO3 · 3 marks

QN	ANSWER	MARK	GUIDANCE
14	**5**	**P1**	For using the area formula, e.g. $\frac{1}{2} \times (6 + 10) \times h = 40$ or $8h = 40$
		P1	For 40 ÷ 8
		A1	cao

Question 15

Forming and solving equations · A21 · A17 · Algebra · AO3 · 3 marks

QN	ANSWER	MARK	GUIDANCE
15	36	P1	For forming an equation, e.g. $3x + 12 = 2(x + 12)$
		P1	For solving to get $x = 12$ (the son's age)
		A1	cao. Trial and improvement leading to 36 scores full marks

Question 16

Proportion problem · R10 · N2 · Ratio & proportion · AO3 · 4 marks

QN	ANSWER	MARK	GUIDANCE
16	3.40	P1	For 5×4.20 (= 21)
		P1	For $21 \div 3$ (= 7), the cost of a bag of compost
		P1	For $2 \times 7 + 3 \times 4.20$ (= 26.60)
		A1	cao

Paper overview

Q	TOPIC	SPEC REF	STRAND	AO	MARKS
1	Number facts	N10 · N4 · N6	Number	AO1	3
2	Fraction of a group	R8 · N12	Ratio & proportion	AO1	2
3	Area and perimeter	G16 · G17	Geometry & measures	AO1	2
4	Writing expressions	A3 · A21	Algebra	AO1	2
5	Bar charts	S2	Statistics	AO1	2
6	Multiplying fractions	N8	Number	AO1	2
7	Using a known fact	N2 · N3	Number	AO2	2
8	Plans and elevations	G13	Geometry & measures	AO1	2
9	Probability	P3 · P4	Probability	AO1/2	3
10	Gradient of a line	A9 · A8	Algebra	AO1/2	3
11	Systematic counting	N5	Number	AO3	2
12	Successive percentages	R9	Ratio & proportion	AO2	3
13	Time series	S2	Statistics	AO2	2
14	Area of a trapezium	G16	Geometry & measures	AO3	3
15	Forming and solving equations	A21 · A17	Algebra	AO3	3
16	Proportion problem	R10 · N2	Ratio & proportion	AO3	4
Total					**40**

Marks by strand

Number	**9 marks (22%)**
Algebra	**8 marks (20%)**
Ratio & proportion	**9 marks (22%)**
Geometry & measures	**7 marks (18%)**
Probability	**3 marks (8%)**
Statistics	**4 marks (10%)**

Marks by assessment objective

AO1 Standard techniques	**18 marks (45%)**
AO2 Reasoning	**10 marks (25%)**
AO3 Problem solving	**12 marks (30%)**