Mark Schemes

Year 5 Mid-year Mathematics

testbase

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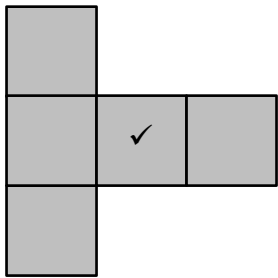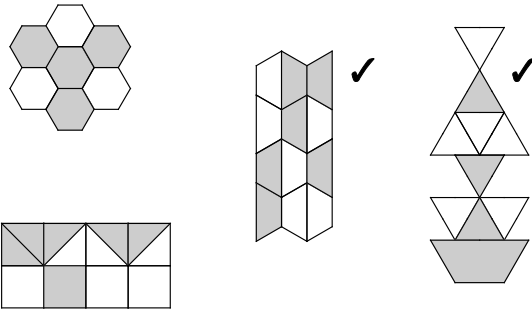
Arithmetic

Question number	Answer	Marks	NC Test framework reference
1	0	1	4C6b
2	701	1	4C2
3	$\frac{8}{9}$ or equivalent	1	5F4
4	49,750	1	5N1
5	48	1	5C6a
6	220,000	1	5C1
7	440	1	5C6a
8	66,475	1	5C2
9	108	1	5C6a
10	9	1	5C6a
11	1,371	1	5C7a
12	9,392	1	5C1
13	11	1	5C6a
14	44,108	1	5C2
15	$\frac{5}{7}$ or equivalent	1	5F5
16	425	1	4C2
17	278	1	5C7b
18	120	1	5C6a
19	8,771	1	5C7a
20	741	1	5C7b

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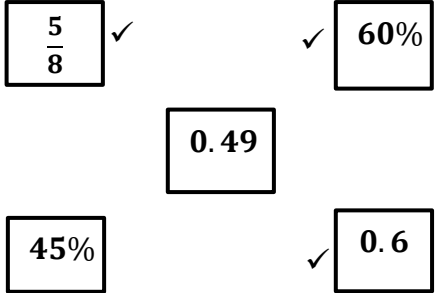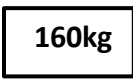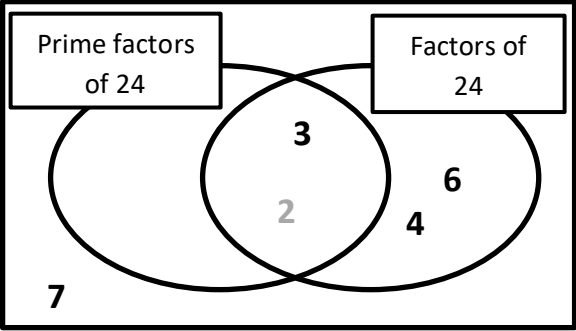| Question number	Answer	Marks	NC Test framework reference
21	7.131	1	5F10
22	90	1	5C6a
23	83,000	1	5C1
24	$5\frac{5}{7}$ or equivalent e.g. $\frac{40}{7}$ **Do not** accept unconventional mixed numbers e.g. $4\frac{12}{7}$	1	5F5
25	51,585	1	5C2
26	699,300	1	5C1
27	**For 2 marks** • 2,397 **For 1 mark** • $\quad$ 51 $\quad$ × 47 $\quad$ 2040 $\quad\quad$ 357 $\quad$ 2397 An error in *one* row, then added correctly, *or* an error in the addition	2	5C7a
28	100,099	1	5C1
29	176,484	1	5C2
30	190.98	1	5F10
31	$4\frac{2}{5}$ or equivalent e.g. $\frac{22}{5}$ **Do not accept** unconventional mixed numbers e.g. $3\frac{7}{5}$	1	5F5
32	28	1	5C5d

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Question number	Answer	Marks	NC Test framework reference
33	$\frac{7}{10}$ or equivalent	1	5F4
34	3.4	1	5F10
35	$6\frac{3}{7}$ or equivalent e.g. $\frac{45}{7}$ **Do not accept** unconventional mixed numbers e.g. $5\frac{10}{7}$	1	5F5
36	$\frac{1}{4}$ or equivalent e.g. $\frac{3}{12}$	1	5F4

37	**For 2 marks**
	• 53,186
	For 1 mark
	• 1834
	  × 29
	  36680
	  16506
	  53186
	
	An error in *one* row, then added correctly, **or** an error in the addition
		2	5C7a

38	31.798	1	5F10

Reasoning test A

Qu.	Requirement	Mark	Additional guidance
1 5N5	Numbers in the correct order, as shown: -11 -5 -3 4 10	1m	All numbers must be written in the correct order for the award of the mark.
2 5F7	Both numbers correct, as shown: 7.02 ⟶ 7 3.54 ⟶ **4** 6.45 ⟶ **6**	1m	Both numbers must be correct for the award of the mark. **Do not** accept decimals e.g. 4.0, 6.00
3 4M4a	35 (minutes)	1m	
4 5C5a	Two numbers with a product of 180, e.g. **3** × **60** = 180	1m	Accept fractions and decimals e.g. **1.8** × **100** = 180

5
5C4
5C8a
	Award **TWO** marks for the correct answer of 22
	
	If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.
	• 8 × 7 + 12 × 6 =
	  56 + 72 = 128
	  150 − 128 = 21 (*error*)
	• 150 − 56 − 72 =
		Up to 2m	Answer need not be obtained for the award of **ONE** mark.

6 5N2	29,029 (feet)	1m	Accept with or without a comma.

Qu.	Requirement	Mark	Additional guidance
7 6G3b	Tick on the correct face, as shown: 	1m	Accept alternative unambiguous indications.
8 5F2b	Award **TWO** marks for both pictures ticked, as shown: If the answer is incorrect, award **ONE** mark for either of the correct pictures ticked and no other picture **OR** both of the correct pictures ticked and one other picture.	Up to 2m	Accept alternative unambiguous indications.
9a 5C8a	4	1m	
9b 5C8a	105	1m	
10 5C7b	Two divisions circled, as shown: 	1m	Both divisions must be indicated for the award of the mark. Accept alternative unambiguous indications.

Qu.	Requirement	Mark	Additional guidance
11 5M5	Correct amount ticked, as shown: ☐ ☐ 750 ✓ ☐ ☐	1m	Accept alternative unambiguous indications.
12 5M9a	An explanation that recognises that Mia paid 40p more than Holly, e.g. • 'Mia paid £6 and Holly paid £5.60 so Mia paid 40p more' • 'Mia paid only 40p more for 4 lots of 6 bags' • '£6.00 is 40p more than £5.60, not 60p' • 'Holly paid 40p less than Mia'. **OR** An explanation that recognises that Mia paid £6 and Holly paid £5.60, e.g. • 'Mia paid £6.00 and Holly paid £5.60' • 'Because 60p more would mean that Mia spent £6.20 but she spent £6.00' • '£6 is not 60p more than £5.60'.	1m	**Award** the mark if either YES is circled **OR** if neither 'Yes' or 'No' is circled, provided a correct unambiguous explanation is given. **Do not** award the mark for circling 'No' alone. **Do not** accept an explanation which makes comparisons between incorrect amounts of money, e.g. • 'Mia's only cost her £5 and Holly's cost her £5.60' • 'Because 2 × £2.80 = £4.60 and 4 × £1.50 = £6 and £6 is 140p more than £4.60 not 50p more than £4.60'. **Do not** accept an explanation which is vague or ambiguous or merely restates the question, e.g. • 'I know that Holly must be wrong because Holly's costs a lot less than 60p' • 'I know Holly paid 60p more'.
13 5M5	850 (m)	1m	

Qu.	Requirement	Mark	Additional guidance
14 5F12 5F11	Three cards ticked as shown: $\frac{5}{8}$ ✓ ✓ 60% 0.49 45% ✓ 0.6	1m	All three cards (and no others) must be indicated for the award of the mark. Accept alternative unambiguous indications.
15 5N4	1,000	1m	
16 5M9a	Award **TWO** marks for the correct answer of £1.45 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • £5 − 65p = £4.35 £4.35 ÷ 3 =	Up to 2m	Accept £1.45p for **TWO** marks. Accept for **ONE** mark £145 or £145p as evidence of an appropriate method. Answer need not be obtained for the award of **ONE** mark.
17a 4F10b	$\frac{1}{2}$ of 90kg = **45kg**	1m	
17b 4F10b	$\frac{1}{8}$ of **160kg** = 20kg	1m	
18 5G4c	115°	1m	Accept an answer in the range 113° – 117° **inclusive**.
19 5C5a 5C5c	Award **TWO** marks for four correctly placed numbers, as shown: Prime factors of 24 Factors of 24 3 6 2 4 7 If the answer is incorrect, award **ONE** mark for any three numbers correctly placed.	Up to 2m	**Do not** credit any number that has been placed in more than one region.

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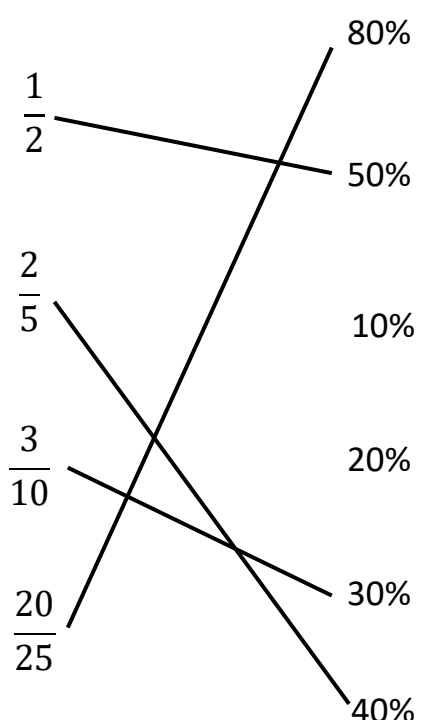
Qu.	Requirement	Mark	Additional guidance
20 5M9a	£1.35	1m	
21 5G4b	97°	1m	
22 6R1	75 (g)	1m	

23
5C4
	Award **TWO** marks for the correct answer of Mia had 85p and Jason had 45p
	
	If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.
	• £1.30 ÷ 2 = 75p (error)
	  75p + 20p = 95p; 75p – 20p = 55p
	• £1.30 – 40p = 90p
	  90p ÷ 2 =
	OR
	One correct i.e. either Mia had 85p or Jason had 45p
	OR
	Both correct amounts but in the wrong order i.e. Mia had 45p and Jason had 85p.
		Up to 2m	Answer need not be obtained for the award of **ONE** mark.

24 5F6a	Two fractions circled, as shown: $\boxed{\dfrac{40}{100}}$ $\dfrac{1}{40}$ $\dfrac{1}{4}$ $\boxed{\dfrac{4}{10}}$	1m	Both fractions must be indicated for the award of the mark. Accept alternative unambiguous indications.
25 5F2a	Fractions ordered correctly, as shown: $\dfrac{5}{2}$ $2\dfrac{3}{4}$ $\dfrac{25}{8}$ $\dfrac{13}{4}$	1m	All numbers must be written in the correct order for the award of the mark. Accept equivalent fractions, e.g. $2\dfrac{1}{2}$ $2\dfrac{3}{4}$ $3\dfrac{1}{8}$ $3\dfrac{1}{4}$ or $\dfrac{20}{8}$ $\dfrac{22}{8}$ $\dfrac{25}{8}$ $\dfrac{26}{8}$
26 4P3b	(12, 11)	1m	Do not accept (11, 12)

Qu.	Requirement	Mark	Additional guidance

27 5M7b	Award **TWO** marks for the correct answer of 59 (cm^2)
	
	If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.
	• $12 \times 9 - 7 \times 7 =$
	• $7 \times 7 = 49$
	  $12 \times 9 = 108$
	  $108 - 49 =$
		Up to 2m	Answer need not be obtained for the award of **ONE** mark.

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Reasoning test B

Qu.	Requirement	Mark	Additional guidance
1 5F3	Two fractions circled as shown: $\frac{5}{8}$ $\boxed{\frac{4}{10}}$ $\boxed{\frac{2}{8}}$ $\frac{7}{10}$	1m	Both fractions must be indicated for the award of the mark. Accept alternative unambiguous indications.
2 5C8a	Three numbers circled as shown: 750 815 999 1,005 2,552	1m	All three numbers must be indicated for the award of the mark. Accept alternative unambiguous indications.
3a 5N6	725 in the left box	1m	
3b 5N6	770 in the right box	1m	
4 5C5a 5C4	Any three numbers circled that sum to a multiple of ten, e.g. • 21, 22, 27 • 25, 27, 28	1m	Three numbers must be indicated for the award of the mark. Accept alternative unambiguous indications.
5 5C8b	Calculation completed as shown: 20 × 10 = 25 × **8**	1m	
6 4M4a	25 (minutes)	1m	Accept a response in the range 23 minutes to 27 minutes **inclusive**.

Qu.	Requirement	Mark	Additional guidance
7 5F12	Award **TWO** marks for four fractions matched correctly, as shown: If the answer is incorrect, award **ONE** mark for two or three fractions correctly matched to their percentage equivalents.	Up to 2m	Lines need not touch the numbers, provided the intention is clear. **Do not** credit any fraction that is joined to more than one percentage.
8 5M9a	Award **TWO** marks for the correct answer of £59 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • Jason has £23 Mia has £23 – £6 = £17 Holly has £17 + £2 = £19 £23 + £17 + £19 =	Up to 2m	Answer need not be obtained for the award of **ONE** mark.
9 5N1	296,000	1m	

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Qu.	Requirement	Mark	Additional guidance
10a 5F2b	4 in the top left box	1m	
10b 5F2b	9 in the bottom right box	1m	
11a 5S2	13°C	1m	Accept answers in the range 12.5°C – 13.5°C **inclusive**.
11b 5S2	16°C	1m	Accept answers in the range 15°C – 17°C **inclusive**.
12 5M6	Award **TWO** marks for three numbers correctly circled, as shown: 2.5mm 25mm (250mm) 2500mm (5.7 litres) 57 litres 57ml 5.7ml 0.45kg (4.5kg) 45kg 450kg If the answer is incorrect, award **ONE** mark for any two numbers correctly circled.	Up to 2m	
13 5F5	6	1m	
14 5F8	Numbers in the correct order, as shown: 5 5.04 5.1 5.14 5.4	1m	All numbers must be written in the correct order for the award of the mark.

Qu.	Requirement	Mark	Additional guidance
15 5M9a	Award **TWO** marks for the correct answer of 90 If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 600 ÷ 20 = 30 　600 ÷ 5 = 110 (*error*) 　110 − 30 = 80 • 5 × 20p = £1 　6 × 5 = 30 　20 × 5p = £1 　6 × 20 = 120 　120 − 30 =	Up to 2m	Answer need not be obtained for the award of **ONE** mark.
16 5M9b	Award **TWO** marks for the correct answer of 26 (cm) If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g. • 2 × 67 = 134 　160 − 134 = • 160 − 67 − 67 =	Up to 2m	Answer need not be obtained for the award of **ONE** mark.
17 5F6b	Number circled as shown: 0.00038　0.0038　0.38000　(0.038)　0.38	1m	Accept alternative unambiguous indications.

Qu.	Requirement	Mark	Additional guidance
18 5C6b	Table completed as shown: 		Game A	Game B	Total points
Holly	2	1	200
Jason	5	4	**650**
Mia	**9**	5	950		1m	Both numbers must be correct for the award of the mark.
19a 5F4	Fraction completed as shown: $\dfrac{\mathbf{3}}{5} + \dfrac{2}{10} = \dfrac{4}{5}$	1m	
19b 5F4	Fraction completed as shown: $\dfrac{1}{4} + \dfrac{\mathbf{5}}{8} = \dfrac{7}{8}$	1m	
20 5M9d	2.24 (litres)	1m	**Do not** accept 2,240ml
21 5C8b	Any three different numbers which are greater than 30 and that sum to 100, i.e. 31 + 32 + 37 (in any order) **OR** 31 + 33 + 36 (in any order) **OR** 31 + 34 + 35 (in any order) **OR** 32 + 33 + 35 (in any order)		

Qu.	Requirement	Mark	Additional guidance
22 5C6a	Award **TWO** marks for three numbers correct, as shown: 170 × 190 = **32,300** 3,230 ÷ 19 = **170** 1,700 × **19** = 32,300 If the answer is incorrect, award **ONE** mark for any two numbers correct.	Up to 2m	
23 5G2b	An explanation that recognises that a regular shape must have equal angles in addition to equal length sides, e.g. • 'Its angles are not all the same size, so Holly is wrong' • 'Holly is wrong because a regular shape must have equal sides and equal angles'	1m	**Do not** accept an explanation which is vague or ambiguous or merely restates the question, e.g. • 'The star is not regular' • 'Holly is wrong because the sides are not all the same length'

24 5M9b	Award **TWO** marks for the correct answer of 23 (cm)
	
	If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.
	• 13 − 8 = 5
	  13 + 5 + 5 =
	
	• 13 − 8 = 5
	  8 + 5 + 5 + 5 = 22
		Up to 2m	Answer need not be obtained for the award of **ONE** mark.