Assessment framework:

		Cognitive domain						
		Knowing (K)		Applying (A)		Reasoning (R)		TOTAL
Content area	Number, operations and relationships (NOR)	1(1), 2(1), 3a(1), 3b(1), 3c(1), 3d(1), 3e(1), 3f(1), 5(1), 7(1)	10	3g(1), 3h(1), 4a(2), 4b(2), 4c(2), 6(1)	9	3i(1), 8(2), 9(2)	5	24
	Patterns, functions & algebra (PFA)	10a(2)	2	10b(2)	2	11(1)	1	5
	Space & shape (SS)	12(1), 13(1), 14(1)	3	15(1), 16(1), 17(1)	3	18(2)	2	8
	Measurement (M)	19(1), 20(2)	3	21a(2), 21b(2)	4	22(2)	2	9
	Data handling (DH)	23a(1), 23b(1)	2	23c(1)	1	23d(1)	1	4
	TOTAL	20		19		11		50

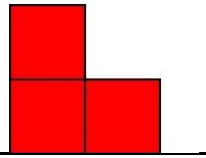
Memo:

Question	Correct solution(s)	Comment	Content area	Cognitive domain	Mark allocation
1.	9,15	1 mrk: correct	NOR	K	1

Question	Correct solution(s)	Comment	Content area	Cognitive domain	Mark allocation
2.	D	1 mrk: correct	NOR	K	1
3.a)	53 000	1 mrk: correct	NOR	K	1
3.b)	380	1 mrk: correct	NOR	K	1
3.c)	6 300	1 mrk: correct	NOR	K	1
3.d)	12	1 mrk: correct	NOR	K	1
3.e)	400	1 mrk: correct	NOR	K	1
3.f)	8 100	1 mrk: correct	NOR	K	1
3.g)	R6,32	1 mrk: correct	NOR	A	1
3.h)	5,31	1 mrk: correct	NOR	A	1
3.i)	$\frac{1}{30}$	1 mrk: correct	NOR	R	1
4.a)	540 *Possible working:* • $15 \times 30 = 450$ and $15 \times 6 = Double\ 45 = 90$, $450 + 90 = 450$ • $10 \times 36 = 360$; $5 \times 36 = Half\ 360 = 180$; $360 + 180 = 540$	2 mrks: correct or 1 mrk: correct working	NOR	K	2

Question	Correct solution(s)	Comment	Content area	Cognitive domain	Mark allocation
4.b)	302 *Possible working*: • $1812 = 1800 + 12$; $1800 \div 6 = 300$ and $12 \div 6 = 2$. $300 + 2 = 302$ • $6 \times 100 = 600$; $6 \times 200 = 1200$, so $6 \times 300 = 1800$. $1800 + 6 \rightarrow 1806 + 6 \rightarrow 1812$	2 mrks: correct or 1 mrk: correct working	NOR	A	2
4.c)	$\frac{5}{8}$ *Possible working*: • $\frac{1}{4} = \frac{2}{8}; \frac{8}{8} - \frac{2}{8} - \frac{1}{8} = \frac{5}{8}$ • $1 - \frac{1}{4} = \frac{3}{4}; \frac{3}{4} - \frac{1}{8} = \frac{6}{8} - \frac{1}{8} = \frac{5}{8}$	2 mrks: correct or 1 mrk: correct working	NOR	A	2
5.	0,09	1 mrk: correct	NOR	K	1
6.	20%	1 mrk: correct	NOR	A	1
7.	$4\frac{1}{2}$	1 mrk: correct	NOR	K	1
8.	56 *Possible working:* • $\frac{4}{7}$ of the Smarties $= 32$; $\frac{1}{7}$ of the Smarties $= 32 \div 4 = 8$; $\frac{7}{7}$ of the Smarties $= 8 \times 7 = 56$	2 mrks: correct or 1 mrk: working	NOR	R	2

<table>
<tr><th>Question</th><th>Correct solution(s)</th><th>Comment</th><th>Content area</th><th>Cognitive domain</th><th>Mark allocation</th></tr>
<tr><td>9.</td><td>13
Possible working:
• Guess and check, preferably in a table, i.e.
<table>
<tr><th>Day 1 (Guess)</th><th>Day 2 (+6)</th><th>Day 3 (+6)</th><th>Day 4 (+6)</th><th>Total</th></tr>
<tr><td>5</td><td>13</td><td>21</td><td>29</td><td>68✗</td></tr>
<tr><td>10</td><td>18</td><td>26</td><td>34</td><td>88✗</td></tr>
</table>
Etc.
• $\square + (\square + 8) + (\square + 16) + (\square + 24) = 100$, so $4 \times \square + 48 = 100$; $4 \times \square = 52$
• $4 \times n + 48 = 100$
$4 \times n = 52$
$n = 13$
• Day 1: $+0$; Day 2: $+8$; Day 3: $+16$; Day 4: $+24$; $\therefore 100 - (0 + 8 + 16 + 24) = 52$; $52 \div 4 = 13$</td><td>2 mrks: correct
or
1 mrk: working</td><td>NOR</td><td>R</td><td>2</td></tr>
<tr><td>10.a)</td><td>A: 20
B: 25</td><td>1 mrk: A correct
1 mrk: B correct</td><td>PFA</td><td>K</td><td>2</td></tr>
<tr><td>10.b)</td><td>Picture $5 = 49$ total tiles
$49 + 15 + 17 + 19 = 100$
$\therefore$ Picture 8</td><td>2 mrks: correct
or
1 mrk: working</td><td>PFA</td><td>A</td><td>2</td></tr>
</table>

Question	Correct solution(s)	Comment	Content area	Cognitive domain	Mark allocation
11.	5	1 mrk: correct *30 ÷ 6*	PFA	R	1
12.	Cylinder	1 mrk: correct	SS	K	1
13.	2	1 mrk: correct	SS	K	1
14.	Tetrahedron or triangular-based pyramid	1 mrk: correct	SS	K	1
15.		1 mrk: correct	SS	A	1
16.	12	1 mrk: correct	SS	A	1
17.	C	1 mrk: correct	SS	A	1
18.	The object has 12 edges. The object has 8 vertices.	2 mrks: both correct and no extra or 1 mrk: both correct and 1 extra or only 1 correct	SS	R	2
19.	4050	1 mrk: correct	M	K	1

Question	Correct solution(s)	Comment	Content area	Cognitive domain	Mark allocation
20.	17 *Possible working:* • $3{,}4 + 3{,}4 \rightarrow 6{,}8 + 3{,}4 \rightarrow 10{,}2 + 3{,}4 \rightarrow 13{,}6 + 3{,}4 \rightarrow 17$ • $5 \times 3 + 5 \times 0{,}4 = 15 + 2 = 17$	2 mrks: correct or 1 mrk: working	M	K	2
21.a)	32 *Possible working:* • $9 + 7 + 9 + 7$ • $9 + 3 + 4 + 5 + 4 + 4 + 3$	2 mrks: correct or 1 mrk: working	M	A	2
21.b)	Area: 47 cm² *Possible working:* • $(9\text{ cm} \times 7\text{ cm}) - (4\text{ cm} \times 4\text{ cm}) = 47\text{ cm}^2$ • $(9\text{ cm} \times 3\text{ cm}) + (4\text{ cm} \times 5\text{ cm}) = 47\text{ cm}^2$	2 mrks: correct or 1 mrk: working	M	A	2
22.	$5\text{ mm} = \frac{1}{2}\text{ cm}$ ∴Each side of container is double the block $2 \times 2 \times 2 = 8$	2 mrks: correct or 1 mrk: working	M	R	2
23.a)	20	1 mrk: correct	DH	K	1
23.b)	25	1 mrk: correct	DH	K	1
23.c)	10 hours	1 mrk: correct	DH	A	1

Question	Correct solution(s)	Comment	Content area	Cognitive domain	Mark allocation
23.d)	The temperature stays constant from $20{:}00$ to $24{:}00$	1 mrk: correct	DH	R	1