Year 9 – End of Term 1 Assessment

Question	Working	Answer	Mark	Notes
1		–13, –5, 0, 7, 11	1	B1 cao
2		2.09, 2.12, 2.19, 2.2	1	B1 cao
3		15 > 16 is circled	1	B1 cao
4		He has not used the correct order of operations	1	C1 oe eg He has added before dividing
5 (a) (b) (c)		24 25 23	1 1 1	
6		Gives all six correct two-digit numbers with no errors, i.e. 31, 32, 34, 41, 42, 43	2	M1 if at least four correct two-digit number, even if there are errors i.e. 32, 33, 34, 41, 42 A1 for cao

Question	Working	Answer	Mark	Notes
7	$\begin{array}{r} 515 \\ \underline{35} \times \\ 2575 \\ \underline{15450} \\ 18025 \end{array}$ $\begin{array}{l} 10 \times 515 = 5150 \\ 10 \times 515 = 5150 \\ 10 \times 515 = 5150 \\ 5 \times 515 = \underline{2575} \\ \qquad\qquad 18025 \end{array}$ 						500	10	5		30	15000	300	150		5	2500	50	25	 $15000 + 2500 + 300 + 50 + 150 + 25 = 18025$	£180.25	3	M1 for a complete method with relative place value correct. Condone one arithmetic error, M1 for complete correct method or the digits 18025 A1 for £180.25(p) or 18025p (with '£' sign deleted)
8		14	2	M1 for $2 \times 2^3 - 2$ A1 cao
9		$10x - 15$	1	B1 cao
10		$3(t + 4)$	1	B1 cao

Question		Working	Answer	Mark	Notes
11	(a)		$7 - m$	1	A1 cao
	(b)		$5d + 3$	1	A1 cao
	(c)		$4k$	1	A1 cao
12		$14x + 7 + 6x + 18$	$20x + 25$	2	M1 for $7 \times 2x + 7 \times 1$ or $14x + 7$ or $6 \times x + 6 \times 3$ or $6x + 18$ A1 for $20x + 25$ (*accept* $5(4x + 5)$)
13	(a)	– – – ⑯ – –	16	1	B1 cao
	(b)		Answer in the range 150 to 174 inclusive	2	M1 for at least two of 29 or 30, 20 or 24, 4 used in a calculation A1 cao
14		$\begin{array}{r} 240 \\ \times\ 120 \\ \hline 000 \\ 4800 \\ 24000 \\ \hline 28800 \end{array}$ $\begin{array}{l} 240 \times 100 = 24000 \\ 240 \times 20\ \ = \ \underline{\ 4800} + \\ 28800 \end{array}$ Grid method: 	×	200	40
100	20000	4000
20	4000	800 | = 20000 + 4000 + 4000 + 800 = 28800	£288	3	M2 for complete method, no errors **OR** M1 for complete method, with no more than one computational error e.g. $\begin{array}{r} 240 \\ \times\ 120 \\ \hline 14000 \\ \underline{4800} \\ 18800 \end{array}$ Answer 188.00 e.g. 240 × £1 = £240, and 240 × 20p = £240 ÷ 5 = 46 so the answer is 286 A1 cao

Question	Working	Answer	Mark	Notes
15		24	2	M1 for $2 \times 2 \times 2 \times 3$ or 12 or 6 A1 cao
16 **(a)**		$6n + 5$	2	B2 for $6n + 5$ (B1 for $6n + k$, where k is an integer)
(b)			1	A1 for no with complete explanation, eg 6n = 116 will not give a whole number

Question	Working	Answer	Mark	Notes
17 **(a)**		Correct explanation showing both aspects below: Shows all three component parts 7^2 or 7×7 7^3 or $7 \times 7 \times 7$ 7^5 or $7 \times 7 \times 7 \times 7 \times 7$ **and** Shows how the component part are linked, either through multiplication or through addition of the power (must be stronger than a restatement of the given $49 \times 343 = 16807$) eg $49 \times 343 = 7^2 \times 7^3 = 7^5$ $7^2 \times 7^3 = 7^5$ $7^5 = (7 \times 7) \times (7 \times 7 \times 7)$ $7^2 \times 7^3$, add the powers to get 7^5	1	C1 cao C0 if component parts not all shown e.g. $49 \times 343 = 7^2 \times 7^3$
(b)		a^3	1	A1 cao
(c)		x^6	1	A1 cao

Question	Working	Answer	Mark	Notes
18		4	1	A1 cao NOTE : Accept A1 for 4 and/or -4
19		617 000	1	B1 cao
20		8×10^4	1	B1 cao
21		$(x + 8)(x - 1)$	2	M1 for $(x \pm 8)(x \pm 1)$ A1 cao

EXTENSION PAPER

Question	Working	Answer	Mark	Notes
1 **(a)**		6	1	B1 cao
(b)		shown	2	M1 for writing 100^a or 1000^b as a power of 10 $\left(= 10^{2a}\ or\ 10^{3b}\right)$ or 10^{2a+3b} or $100 = 10^2\ and\ 1000 = 10^3$ C1 for complete chain of reasoning leading to conclusion

Question	Working	Answer	Mark	Notes
2		$10\sqrt{6}$	2	M1 for $\sqrt{75 \times 8}$ or $\sqrt{600}$ or $5\sqrt{3}$ or $2\sqrt{2}$ A1 cao
3		$2\sqrt{5}$	2	M1 for multiplication of denominator and numerator by $\sqrt{5}$ A1 cao
4		$n^2 + n + 4$	3	M1 begins to work with 2nd differences 4 6 8 2 2 M1 identifies n^2 as part of the expression eg gives the sequence 1, 4, 9, 16, … or gives a quadratic expression which includes the term n^2 A quadratic expression of the form $n^2 + bn + c$ can be awarded the first two marks A1 oe