Mark Scheme

Q1.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	Example	C1	for a correct example, eg $3 \times 4 = 12$ or $12 \div 3 = 4$ **or** a statement eg '3 is a factor of 12' or '1 is a factor of every number'	This may be seen, for example, in a factor tree or in a list of factors, but there must be no incorrect factors on the tree or in the list
(b)	Example	C1	for an example, eg 23 **or** a statement eg. 'the tens digit may be even' or 'the last digit only needs to be odd'	

(Q11 1MA1/1F, June 2018)

Q2.

Question	Working	Answer	Mark	Notes
		$2\times2\times2\times7$	M1 A1	for complete method to find prime factors; could be shown on a complete factor tree with no more than 1 arithmetic error accept $2^3 \times 7$

(Q02 1MA1/1H, June 2017)

Q3.

Question	Answer	Mark	Mark scheme	Additional guidance
	Two correct factors	B1	for 2 correct factors from 1, 2, 3, 4, 6, 12 and no incorrect factors	Accept one correct product

(Q01 1MA1/3F, Nov 2019)

Q4.

Question	Answer	Mark	Mark scheme	Additional guidance
	10 or 12	B1	for 10 or 12	Accept both 10 and 12 given

(Q04 1MA1/1F, Nov 2022)

Q5.

Question	Answer	Mark	Mark scheme	Additional guidance
	Three correct factors	B2 (B1	for at least **three** from 1, 2, 4, 5, 10, 20 for **two** correct factors from 1, 2, 4, 5, 10, 20 and no more than one incorrect factor)	No incorrect factors No repeats (within the chosen 3) Ignore extra correct factors. Accept factor pairs, eg. 1 × 20 as two factors

(Q07 1MA1/1F, June 2023)

Q6.

Question	Answer	Mark	Mark scheme	Additional guidance
	21	M1 A1	for a complete factor tree for 63 or 105 with no more than one arithmetic error **or** for listing at least 4 correct factors (with no more than 1 incorrect) of 63 or 105, could be in factor pairs **or** for the prime factors of 63 (3, 3, 7) or 105 (3, 5, 7) cao SCB1 for answer of 3 or 7 or 3 × 7 if M0 scored	Condone the inclusion of 1 for this mark May be seen in different ways, 1, 3, 7, 9, 21, 63 1, 3, 5, 7, 15, 21, 35, 105 Prime factors may be seen in a diagram eg a Venn diagram

(Q22 1MA1/3F, June 2024)

Q7.

Question	Answer	Mark	Mark scheme	Additional guidance
	Any two correct 1, 2, 4, 8, 16	B1	two correct and no incorrect	Allow more than two factors but all must be correct

(Q03 1MA1/3F, Nov 2024)

Q8.

Paper 1MA1:3F			
Question	**Working**	**Answer**	**Notes**
(i)		12	B1 cao
(ii)		2 or 5	B1

(Q04 1MA1/3F/S1, Specimen papers)

Q9.

Question	Working	Answer	Mark	Notes
(i)		4 or 5	1	B1 for 4 or 5
(ii)		30 or 40	1	B1 for 30 or 40
(iii)		29	1	B1 cao

(**Q04 5MB2F/01, Nov 2010**)

Q10.

Question		Working	Answer	Mark	Notes
		$4n^2 + 12n + 3^2 - (4n^2 - 12n + 3^2)$ $= 4n^2 + 12n + 9 - 4n^2 + 12n - 9$ $= 24n$ $=8 \times 3n$	Proof	3	M1 for 3 out of 4 terms correct in expansion of either $(2n + 3)^2$ or $(2n - 3)^2$ **or** $((2n + 3) - (2n - 3))((2n + 3) + (2n - 3))$ A1 for $24n$ from correct expansion of both brackets A1 (dep on A1) for $24n$ is a multiple of 8 or $24n = 8 \times 3n$ or $24n \div 8 = 3n$

(**Q19 1MA0/2H, June 2012**)

Q11.

Question	Answer	Mark	Mark scheme	Additional guidance
	14	B1	cao	

(**Q05 1MA1/1F, June 2018**)

Q12.

		Working	Answer	Mark	Notes
	(i)		5,15 or 5,125 or 15,125 or 30,50 or 30,60 or 30,90 or 30,100 or 50,60 or 50,90 or 50,100 or 60,90 or 60,100 or 90,100	4	B1 for 2 numbers, from the list, whose sum is an even number.
	(ii)		60 or 100		B1 for 60 or 100 or both
	(iii)		5 or 15		B1 for 5 or 15 or both
	(iv)		125		B1 cao

(**Q07 1MA0/2F, Mar 2013**)

Q13.

Question	Working	Answer	Mark	Notes
(a)		example	B1	e.g. $3 + 8 = 11$
(b)		example	B1	e.g. $2 \times 7 = 14$
(c)		example	B1	e.g. $9 \times 9 = 81$

(Q08 1MA1/1F/M2, Specimen papers)

Q14.

Question	Working	Answer	Notes
		8	M1 for finding the HCF of any two of the three numbers **or** for 2^5 and 3×2^4 and $2^3 \times 3^2$ A1 cao

(Q21 1MA1/2F/S2, Specimen papers)

Q15.

Paper 1MA1: 2F			
Question	**Working**	**Answer**	**Notes**
		12	M1 Starts to list factors of writes at least one number in terms of prime factors **or** identifies a common factor other than 1 A1 cao

(Q16 1MA1/2F/N, Specimen papers)

Q16.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	280	M1	for listing at least 3 multiples of both 40 and 56 **OR** finds the prime factors of both 40 and 56	40, 80, 120, … 56, 112, 168, … **OR** 2,2,2,5 and 2,2,2,7
		A1	cao	
(b)	60	B1	60 **or** $2^2 \times 3 \times 5$ oe	2^2, 3, 5 not enough ie must be a product

(Q02 1MA1/2H, June 2018)

Q17.

5MB2H_01 November 2015					
Question		Working	Answer	Mark	Notes
			7.21 (am)	3	M1 for listing multiples 9,18,27,36 and 12,24,36 (condone 1 arithmetic error) or method to find LCM M1 for identifying 36 as LCM A1 cao OR M1 for listing times 6.54, 7.03, 7.12, 7.21 or for listing times 6.57, 7.09, 7.21 (condone one arithmetic error) M1 for listing times 6.54, 7.03, 7.12, 7.21 **and** 6.57, 7.09, 7.21 (condone one arithmetic error) A1 cao

(**Q07 5MB2H/01, Nov 2015**)

Q18.

Question	Working	Answer	Mark	Notes
		42 or 48	B1	42 or 48

(**Q02 1MA1/2F, Nov 2017**)

Q19.

PAPER: 1MA0/2F				
Question	Working	Answer	Mark	Notes
(i)		72	3	B1 cao
(ii)		5		B1 cao
(iii)		5 or 31		B1 cao

(**Q13 1MA0/2F, Nov 2016**)

Q20.

PAPER: 1MA0_1F					
Question		Working	Answer	Mark	Notes
			$2 \times 2 \times 3 \times 3 \times 5$	3	M1 for continual prime factorisation (at least two consecutive steps correct) **or** at least two stages of a factor tree correct M1 for a fully correct factor tree **or** list 2, 2, 3, 3, 5 A1 for $2 \times 2 \times 3 \times 3 \times 5$ or $2^2 \times 3^2 \times 5$

(**Q23 1MA0/1F, Nov 2014**)

Q21.

		Working	Answer	Mark	Notes
		5|525 5|105 3|21 7	$3 \times 5 \times 5 \times 7$	3	M1 for continual prime factorisation (at least first 2 steps correct) or first two stages of a factor tree correct M1 for fully correct factor tree or list 3, 5, 5, 7 A1 $3 \times 5 \times 5 \times 7$ or $3 \times 5^2 \times 7$

(**Q04 1MA0/1H, June 2013**)

Q22.

Question	Working	Answer	Mark	Notes
		$2 \times 2 \times 3 \times 3$	M1	for complete method to find prime factors; could be shown on a complete factor tree with no more than 1 arithmetic error **or** 2,2,3,3,(1)
			A1	$2 \times 2 \times 3 \times 3$ oe

(**Q01 1MA1/1H, Nov 2017**)

Q23.

PAPER: 1MA0_1H					
Question		Working	Answer	Mark	Notes
	(a)		$2 \times 2 \times 3 \times 3 \times 5$	3	M1 for a continual prime factorisation (at least two consecutive steps correct) or at least two stages of a factor tree correct M1 for a fully correct factor tree or list 2,2,3,3,5 A1 for $2 \times 2 \times 3 \times 3 \times 5$ or $2^2 \times 3^2 \times 5$
	(b)		Eg 6, 30	2	M1 for two numbers with an HCF of 6 **or** for two numbers with a LCM a multiple of 15 A1 for two numbers with an HCF of 6 **and** a LCM a multiple of 15 (eg (6, 30), (12, 30), …) **OR** M1 for 2×3 **and** 3×5 **or** for $2 \times 3 \times 5$ A1 for two numbers with an HCF of 6 **and** a LCM a multiple of 15 eg (6, 30) (12, 30) …

(**Q12 1MA0/1H, Nov 2014**)

Q24.

Question	Working	Answer	Mark	Notes
(a)		25	B1	for 25 (accept 5^2)
(b)		24	B1	cao
(c)		23, 29	B1	for 23 and 29 and no extras

(**Q08 1MA1/2F, June 2017**)

Q25.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	63	B1	for 63, accept $3 \times 3 \times 7$ or $3^2 \times 7$	
(b)	15 876	M1	for at least two of 2^2, 3^4, 7^2 **or** shows at least 3 multiples of 2268, eg 2268, 4536, 6804 and at least 3 multiples of 441, eg 441, 882, 1323	(A =) $2^2 \times 3^4 \times 7$ scores 0 marks
		A1	for 15 876 or $2^2 \times 3^4 \times 7^2$ oe	

(**Q24 1MA1/3F, June 2023**)

Q26.

Question		Working	Answer	Mark	Notes
	(a)		Explanation	1	C1 34 is not a multiple of 3 oe
	(b)		Explanation	2	C1 explains order of operations not correct oe C1 explains inverse of ×2 not used oe

(**Q11 1MA1/2F/M1, Specimen papers**)

Q27.

Paper 1MA1: 2F			
Question	Working	Answer	Notes
(a)		eg. $2 \times 5 = 10$	B1 example given
(b)		explanation	P1 two prime numbers identified
			C1 conclusion which also shows at least one calculation with prime numbers or identifies one of the prime numbers as 2.

(**Q11 1MA1/2F/N, Specimen papers**)

Q28.

Question	Working	Answer	Mark	Notes
		No	B1	for showing 11 or 13 or 17 or 19 with no non-prime numbers between 10 and 20, or for showing 23 or 29 with no non-prime numbers between 20 and 30. Ignore any numbers shown below 11.
		(supported)	C1	"No" supported by listing 11, 13, 17, 19 and 23, 29 and no non-prime

(**Q07 1MA1/2F, Nov 2017**)

Q29.

Question	Answer	Mark	Mark scheme	Additional guidance
	35	B1	cao	

(**Q04 1MA1/2F, June 2024**)

Q30.

PAPER: 1MA0_2H					
Question		Working	Answer	Mark	Notes
		12, 24, 36, 48, 60, 72, …. 8, 16, 24, 32, 40, 48, 56, 64, 72,…	25.80	5	M1 for listing at least 3 multiples of each of 12 and 8 or 24 in two lists of multiples or from factor trees M1 (dep) for attempt to find a common multiple of 12 and 8 above 60 (=72) M1 (dep M2) for method to find the number of boxes **and** the number of packs 72 ÷12 (=6) and 72 ÷ 8 (=9) M1 for finding the total cost by multiplying numbers by cost and adding eg "6" × 2.50 + "9" × 1.20 A1 for 25.8(0)

(**Q14 1MA0/2H, June 2014**)

Q31.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$2^2 \times 3 \times 13$	M1	for a complete method to find prime factors; could be shown in a complete factor tree with no more than one error **or** by division by prime factors with no more than one error **or** for 2, 2, 3, 13 (1)	Condone the inclusion of 1 for this mark
		A1	$2^2 \times 3 \times 13$ **or** $2 \times 2 \times 3 \times 13$ oe	
(b)	26	M1	for a correct factor tree for 130 (or 156 if not credited in part (a)) with no more than one arithmetic error **or** for listing factors of 156 or 130, at least 4 correct for either (with no more than 1 incorrect in either list), could be in factor pairs **or** for the prime factors of 130 (2, 5, 13) (or 156 if not credited in part (a)) **or** identifies a common factor other than 1 (2 or 13)	Condone the inclusion of 1 for this mark 1, 2, 3, 4, 6, 12, 13, 26, 39, 52, 78, 156 1, 2, 5, 10, 13, 26, 65, 130
		A1	cao	

(**Q03 1MA1/1H, Nov 2023**)

Q32.

PAPER: 1MA0_2F				
Question	**Working**	**Answer**	**Mark**	**Notes**
(a)	2,5	2 or 5	1	B1 cao
(b)	1, 4, 9, 16 1 + 4 + 16	1, 4, 16	2	M1 for identifying at least 2 different square numbers from the list A1 cao

(**Q18 1MA0/2F, June 2015**)

Q33.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	Explanation	C1	For stating the LCM of (4+7) and (5+3) is 88 **or** there is no smaller multiple of 8 and 11 (than 88)	
(b)	23	P1	for using a scale factor appropriately eg 4×8 (=32) **or** 3×11 (=33) **or** 7×8 (=56) **or** 5×11 (=55) **or** for writing a pair of suitable fractions, eg $\frac{7}{11}$ and $\frac{3}{8}$ **or** $\frac{4}{11}$ and $\frac{5}{8}$ **or** $\frac{3}{8}$ and $\frac{4}{11}$	May be seen in a two-way table or probability tree
		P1	for finding the number of large cubes and red cubes **or** small and yellow **or** small and red eg 7×8 (=56) and 3×11 (=33) **or** 4×8 (=32) and 5×11 (=55) **or** 4×8 (=32) and 3×11 (=33) **OR** a suitable fractional equation, eg $\frac{7}{11} - x = \frac{3}{8}$ **or** $\frac{5}{8} - x = \frac{4}{11}$ **or** $x = 1 - \frac{3}{8} - \frac{4}{11}$ **OR** a suitable pair of probabilities with a common denominator, eg $\frac{56}{88}$ and $\frac{33}{88}$ **or** $\frac{32}{88}$ and $\frac{55}{88}$ **or** $\frac{33}{88}$ and $\frac{32}{88}$	May be seen in a two-way table or probability tree
		A1	cao	$\frac{23}{88}$ scores P2A0

(**Q17 1MA1/2H, June 2019**)

Q34.

Question	Answer	Mark	Mark scheme	Additional guidance
	Suitable number eg 725	B1	for a suitable 3 digit number ending in 0 or 5	

(**Q04 1MA1/2F, June 2022**)

Q35.

Question	Answer	Mark	Mark scheme	Additional guidance
	100	B1	cao	

(**Q05 1MA1/2F, June 2023**)

Q36.

Question	Answer	Mark	Mark scheme	Additional guidance
	$2 \times 2 \times 3 \times 5$	M1	for a complete method to find prime factors, could be shown on a complete factor tree, with no more than one error or by division by prime factors with no more than one error **or** for 2, 2, 3, 5 (1)	Condone the inclusion of 1 for the method mark
		A1	for $2 \times 2 \times 3 \times 5$ oe	Accept $2^2 \times 3 \times 5$

(**Q02 1MA1/2H, June 2023**)

Q37.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	63	B1	for 63, accept $3 \times 3 \times 7$ or $3^2 \times 7$	
(b)	15 876	M1	for at least two of 2^2, 3^4, 7^2 **or** shows at least 3 multiples of 2268, eg 2268, 4536, 6804 and at least 3 multiples of 441, eg 441, 882, 1323	(A =) $2^2 \times 3^4 \times 7$ scores 0 marks
		A1	for 15 876 or $2^2 \times 3^4 \times 7^2$ oe	

(**Q05 1MA1/3H, June 2023**)

Q38.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$2 \times 3 \times 3 \times 5$	M1	for a complete method to find prime factors; could be shown on a complete factor tree with no more than one error **or** by division by prime factors with no more than one error **or** for 2, 3, 3, 5	Condone the inclusion of 1 for this mark
		A1	for $2 \times 3 \times 3 \times 5$ oe	Accept $2 \times 3^2 \times 5$
(b)	36	B1	for 36	Accept $2^2 \times 3^2$ or $2 \times 2 \times 3 \times 3$

(**Q21 1MA1/2F, June 2024**)

Q39.

Question	Answer	Mark	Mark scheme	Additional guidance
	5	B1	cao	

(**Q03 1MA1/1F, Nov 2018**)

Q40.

Question	Answer	Mark	Mark scheme	Additional guidance
	3 and 29 or 13 and 19	M1 A1	for two numbers with a sum of 32, only one of which is prime, eg 5, 27 or 1, 31 cao	Do not accept 1 as a prime number.

(Q10 1MA1/1F, Nov 2018)

Q41.

Question	Answer	Mark	Mark scheme	Additional guidance
	6	P1 P1 A1	for listing the multiples of 3 **and** 5 to at least the number 15 **or** 3×5 (= 15) for considering multiples of 15, eg 4 multiples of 15 identified **or** $100 \div 15$ (=6.6..) **or** an answer of 7 cao	3, 6, 9, 12, 15 and 5, 10, 15 If in a list of multiples of 3 and 5, multiples of 15 must be clearly identified Sight of 6.6(…) or $6\frac{2}{3}$ oe or an answer of 7 gets 2 marks.

(Q15 1MA1/3F, Nov 2018)

Q42.

Question	Answer	Mark	Mark scheme	Additional guidance
	18	M1 A1 	for listing factors of 72 and 90, at least 4 correct for each (with no more than 1 incorrect in each list), could be in factor pairs **OR** for the prime factors of 72 (2, 2, 2, 3, 3) **or** 90 (2, 3, 3, 5) for 18 or 2×3^2 oe SC B1 for answer of 6 or 9 if M0 scored	Factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72 Factors of 90: 1, 2, 3, 5, 6, 9, 10, 15, 18, 30, 45, 90 $2, 3^2$ is not enough, it must be a product

(Q24 1MA1/1F, June 2019)

Q43.

Question	Answer	Mark	Mark scheme	Additional guidance
	98^{91}	B1	cao	Must be clear and unambiguous

(Q20 1MA1/3H, Nov 2020)

Q44.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	2×2×3×7	M1	for a complete method to find prime factors, could be shown on a factor tree, with no more than one arithmetic error **or** for 2, 2, 3, 7	Condone the use of 1
		A1	for $2 \times 2 \times 3 \times 7$ oe	Accept $2^2 \times 3 \times 7$
(b)	420	M1	for at least 3 multiples of both 60 and 84 (can include 60 and 84) **or** finds the prime factors of both 84 (may be seen in (a)) and 60, may be seen in factor trees	60, 120, 180, 240, 300, 360, 420 84, 168, 252, 336, 420 $60 = 2 \times 2 \times 3 \times 5$ or $2^2 \times 3 \times 5$ If factor tree in (a) is incorrect ft this factor tree in part3 (b) for M1 only
		A1	420 **or** $2 \times 2 \times 3 \times 5 \times 7$ oe	

(**Q01 1MA1/2H, Nov 2020**)

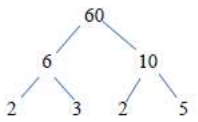
Q45.

Question	Answer	Mark	Mark scheme	Additional guidance
	L23, U23, L29, U29	B2	for all 4 outcomes with no extras or repeats	Pairs must be unambiguous and in the correct order of letter number
		(B1	for at least 2 correct outcomes out of at most 8 different outcomes **or** for indicating 23 and 29 are the only prime numbers between 20 and 30)	

(**Q12 1MA1/2F, Nov 2020**)

Q46.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	12	M1	for a correct factor tree for either 60 **or** 84 with no more than one arithmetic error **or** for listing factors of 60 **or** 84, at least 4 correct for either (with no more than 1 incorrect in either list), could be in factor pairs **or** for the prime factors of 60 (2, 2, 3, 5) **or** 84 (2, 2, 3, 7)	Condone the use of 1 in any factor tree 60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60 84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84
		A1	for 12 or 2×2×3 oe SC B1 for answer of 4 or 6, if M0 scored	2,2,3 is not enough, it must be a product
(b)	120	M1	for a correct factor tree for either 24 **or** 40 with no more than one arithmetic error **or** for at least 3 multiples of both 24 and 40 (can include 24 and 40) **or** for the prime factors of either 24 (2, 2, 2, 3) **or** 40 (2, 2, 2, 5) **or** for a common multiple from their lists (≠ 120)	Condone the use of 1 in any factor tree 24: 24, 48, 72, 96, 120, … 40: 40, 80, 120, … For the list not containing 120, accept the first 3 correct multiples or one error in the first 4 multiples
		A1	for 120 or 2×2×2×3×5 oe	



60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

84: 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

(**Q02 1MA1/2H, Nov 2021**)

Q47.

Question		Working	Answer	Mark	Notes
			explanation	2	M1 identifies two different prime numbers C1 explanation e.g. counter example 2 + 7 = 9

(**Q06 1MA1/3F/M1, Specimen papers**)

Q48.

Question		Working	Answer	Mark	Notes
		24, 48, 72, 96, 120, 144, 168, 192, 216, 240, 264, **288** 36, 72, 108, 144, 180, 216, 252, **288**	12 boxes of book marks 8 packs of dust covers	4	M1 attempts multiples of either 24 or 36 (at least 3 but condone errors if intention is clear) M1 attempts multiples of both 24 and 36 (at least 3 but condone errors if intention is clear) M1 (dep on M2) for a division of 250 or 288 by 24 or 36, or counts up "multiples" (implied if answers reversed) A1 for 12 boxes of book marks, 8 packs of dust covers. Accept (15b, 10p), (18b, 12p) etc (SCB1 for (11b, 7p))

(Q17 5MB2F/01, June 2016)

Q49.

Question	Answer	Mark	Mark scheme	Additional guidance
	3 and 9	P1 A2 (A1	for starting to list factors of 36 **or** multiples of 3 **or** odd numbers cao for one correct answer)	Must be at least 3. In either order

(Q06 1MA1/2F, June 2018)

Q50.

Paper 1MA1: 2F			
Question	Working	Answer	Notes
		eg. 1, 2, 18	P1 Starts process eg. Lists at least 2 multiples from 9, 18, 27, 36, 45 **or** lists at least 2 factors from 1, 2, 4, 5, 8, 10, 20, 40 P1 Continues process eg. gives a set of numbers whose sum is greater than 20 but less than 30 but numbers may not all be appropriate factors/multiples A1 Gives 3 numbers that meet all the criteria

(Q06 1MA1/2F/N, Specimen papers)

Q51.

Question		Working	Answer	Mark	Notes
			eg. 10, 12, 5, 2	3	M1 for at least 2 factors of 60 clearly identified M1 for 20 < sum of '4 distinct natural numbers' < 35 A1 cao

(Q13 1MA0_2F, June 2012)

Q52.

Question	Working	Answer	Notes
		1,3,9 or 2,6,9 or 2,3,6 or 2,3,18 or 2,9,18	M1 3 factors of 18 or 3 numbers with prime total A1 eg 2, 3, 6

(**Q07 1MA1/3F/S2, Specimen papers**)

Q53.

		Working	Answer	Mark	Notes
		LCM (80, 50) = 400 Matt 400 ÷ 50 = 8 Dan 400 ÷80 = 5 **OR** 50 = 2 × 5 (× 5) 80 = 2 × 5 (× 2 × 2 × 2)	Matt 8 Dan 5	3	M1 lists multiples of both 80 (seconds) and 50 (seconds) (at least 3 of each but condone errors if intention is clear, can be in minutes and seconds) or use of 400 seconds oe. M1 (dep on M1) for a division of "LCM" by 80 or 50 or counts up "multiples" (implied if one answer is correct or answers reversed) A1 Matt 8 and Dan 5 SC B1 for Matt 7, Dan 4 **OR** M1 for expansion of both 80 and 50 into prime factors. M1 demonstrates that both expansions include 10 oe A1 Matt 8 and Dan 5 SC B1 for Matt 7, Dan 4

(**Q08 1MA0/1H, June 2013**)

Q54.

Question		Working	Answer	Mark	Notes
		Acton after 24, 48, 72, 96, .. Barton after 20, 40, 60, 80, .. LCM of 20 and 24 is 120 9: 00 am + 120 minutes **OR** Acton after 24, 48, 1h 12 min… Barton after 20, 40, 1 h LCM is 2 hours 9: 00 am + 2 hours **OR** Times from 9: 00 am when each service leaves the bus station Acton at 9: 24, 9: 48, 10: 12.. Barton at 9: 20, 9: 40, 10: 00.. **OR** 20 = 2 × 2 × 5 24 = 2 × 2 × 2 × 3 2 × 2 × 2 × 3 × 5 = 120	11: 00 am	3	M1 for listing multiples of 20 and 24 with at least 3 numbers in each list ; multiples could be given in minutes or in hours and minutes (condone one addition error in total in first 3 numbers in lists) A1 identify 120 (mins) **or** 2 (hours) as LCM A1 for 11: 00 (am) **or** 11(am) **or** 11 o'clock **OR** M1 for listing times after 9am when each bus leaves the bus station, with at least 3 times in each list (condone one addition error in total in first 3 times after 9am in lists) A1 for correct times in each list up to and including 11: 00 A1 for 11: 00 (am) **or** 11(am) **or** 11 o'clock **OR** M1 for correct method to write 20 and 24 in terms of their prime factors 2, 2, 5 and 2, 2, 2, 3 (condone one error) A1 identify 120 as LCM A1 for 11: 00 (am) **or** 11(am) **or** 11 o'clock

(**Q19 1MA0/1F, June 2012**)

Q55.

PAPER: 1MA0_1H					
Question		Working	Answer	Mark	Notes
	(i)	20, 40, 60 12, 24, 36, 48, 60 $20 = 4\times5 = 2\times2\times5$ $12 = 4\times3 = 2\times2\times3$	3 and 5 or any multiple of 3, 5	4	M1 attempts multiples of both 20 and 12 (at least 3 of each shown but condone errors if intention is clear) or identifies 60 or a multiple of 60 M1 (dep on M1) for a division by 20 or 12 or counts up 'multiples' or identifies a common multiple (implied if one answer is correct or answers reversed) A1 cheese slices (packets) 3, burgers (boxes) 5 or any multiple of 3, 5 OR M1 for expansion of either 20 or 12 into factors M1 for demonstration that both expansions include 4 (or 2×2) A1 cao for cheese slices (packets) 3, burgers (boxes) 5
	(ii)		60		B1 for 60 or ft from their correct answer in (i) or ft 'common multiple'

(Q07 1MA0/1H, Nov 2013)

Q56.

5MB2F November 2016					
Question	Working	Answer	Mark	Notes	Type
	6, 10, 14, 18 8, 13, 18	18	3	M1 for listing at least 3 multiples of 4 and at least 3 multiples of 5 M1 for adding 2 to multiples of 4 **and** adding 3 to multiples of 5 A1 for 18 cao	E

(Q14 5MB2F/01, Nov 2016)

Q57.

Question	Answer	Mark	Mark scheme	Additional guidance
	10	P1	for start to a process to find the LCM of 20, 45 and 120 (= 360), eg $45 = 3\times3\times5$ or $20 = 2\times2\times5$ or $120 = 2\times2\times2\times3\times5$ or writes down at least 3 multiples of 45 and 120	Could be presented as complete prime factor trees for 45 or 120
		P1	(dep) for a process to find number of times/hour using their LCM, eg $3600 \div 360$ or $3600 \div 720$	Must use a common multiple. Working may be in minutes.
		A1	for 10 or 11	

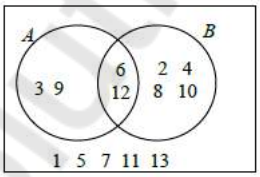
(Q10 1MA1/3H, June 2018)

Q58.

Paper 1MA1: 2F			
Question	Working	Answer	Notes
		9	B1

(**Q02 1MA1/2F/S1, Specimen papers**)

Q59.

Question	Answer	Mark	Mark scheme	Additional guidance
	Venn Diagram	B1 M1 M1 A1	for labelling diagram, accept "multiples of 3" and "even numbers" for labels for correct numbers in at least one region for correct numbers in at least two regions for all regions correct	Ignore all entries except the region you are marking for each method mark 

(**Q20 1MA1/3F, Nov 2019**)

Q60.

Paper 1MA1: 1F			
Question	Working	Answer	Notes
		39	B1

(**Q03 1MA1/1F/N, Specimen papers**)

Q61.

Question	Working	Answer	Mark	Notes
		Any even cube	B1	for any even cube number

(**Q02 1MA1/2F/M2, Specimen papers**)