

Paper: 1MA1/1H				
Question	Working	Answer	Mark	Notes
1 Q1		$2 \times 2 \times 3 \times 3$	M1 A1	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) $2 \times 2 \times 3 \times 3$ oe

Paper: 1MA1/1H				
Question	Working	Answer	Mark	Notes
2 Q2		$2 \times 2 \times 2 \times 7$	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 $2^3 \times 7$

Paper: 1MA1/2H				
Question	Answer	Mark	Mark scheme	Additional guidance
2 (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
Q3		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

Paper: 1MA1/3H				
Question	Answer	Mark	Mark scheme	Additional guidance
10	10	P1	for start to a process to find the LCM of 20, 45 and 120 (= 360), eg $45 = 3 \times 3 \times 5$ or $20 = 2 \times 2 \times 5$ or $120 = 2 \times 2 \times 2 \times 3 \times 5$ or writes down at least 3 multiples of 45 and 120	Could be presented as complete prime factor trees for 45 or 120
Q4		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	

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Question	Answer	Mark	Mark scheme	Additional guidance
3	18	M1	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	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
Q5		A1	for 18 or 2×3^2 oe SC B1 for answer of 6 or 9 if M0 scored	 2, 3^2 is not enough, it must be a product

Paper: 1MA1/2H				
Question	Answer	Mark	Mark scheme	Additional guidance
1 (a)	$2 \times 2 \times 3 \times 7$	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
Q6		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	

Paper: 1MA1/3H				
Question	Answer	Mark	Mark scheme	Additional guidance
20 Q7	98^{91}	B1	cao	Must be clear and unambiguous

Paper: 1MA1/2H				
Question	Answer	Mark	Mark scheme	Additional guidance
Q8	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 $2 \times 2 \times 3$ oe SC B1 for answer of 4 or 6, if M0 scored	
	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 ($\neq 120$)	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 $2 \times 2 \times 2 \times 3 \times 5$ oe	

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Question	Answer	Mark	Mark scheme	Additional guidance
1	1080	M1	for method to write one number as a product of prime factors (condone one division error in method chosen), eg. one complete factor tree or 2, 2, 3, 3, 3 or 2, 2, 2, 3, 5 or for listing at least 5 multiples of either number (condone one error) or for any common multiple ($\neq 1080$), eg. 12960 ($= 108 \times 120$)	Accept first 5 multiples if all correct or one error in the first 6 multiples
Q9		M1	for method to write both numbers as a product of prime factors (condone a total of one division error) eg. two complete factor trees or 2, 2, 3, 3, 3 and 2, 2, 2, 3, 5 or lists of multiples of the two numbers, at least 5 of each, one of which includes 1080	For the list not containing 1080, accept first 5 correct multiples or one error in the first 6 multiples
		A1	cao SC: B2 for any product that would lead to 1080, eg. $2^3 \times 3^3 \times 5$ or $12 \times 9 \times 10$	

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Question	Answer	Mark	Mark scheme	Additional guidance
1	$2^2 \times 5^3$	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	Condone the inclusion of 1 for the method marks
Q10		M1	for complete factorisation, eg 2, 2, 5, 5, 5	Could be shown on a fully correct factor tree
		A1	for $2^2 \times 5^3$	

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Question	Answer	Mark	Mark scheme	Additional guidance
8	Pair of values	P1	for at least 5 multiples of 5 (with no more than 1 incorrect) or for at least 5 multiples of 7 (with no more than 1 incorrect) or for $m =$ a multiple of 35 and $n =$ a multiple of 14 or for $m = 35$ or $n = 14$	
Q11		A1	for a correct pair of values, eg $m = 35$ and $n = 14$ or $m = 35$ and $n = 28$ or $m = 105$ and $n = 14$	$m = 35, n = 14, 28, 42, 56, 84, \dots$ $m = 105, n = 14, 28, 56, 98, \dots$

Paper: 1MA1/1H				
Question	Answer	Mark	Mark scheme	Additional guidance
2	$2 \times 2 \times 31$	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	Condone the inclusion of 1 for this mark
Q12		A1	or for 2, 2, 31, (1) for $2 \times 2 \times 31$ oe	Accept $2^2 \times 31$