

TAKE 5 ... PRODUCT OF PRIME FACTORS (& SOME LCM)

Q1.

	Working	Answer	Mark	Notes
		3 primes that total 20	3	M1 for identifying at least 2 different prime numbers from the list, could indicate on the list (not more than one incorrect) M1 for any 3 numbers from the list that total 20 A1 for 2, 7, 11 or 2, 5, 13 or both (in any order)

Q2.

Question	Working	Answer	Mark	Notes
		$2 \times 2 \times 3 \times 3$	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

Q3.

	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 $3 \times 5^2 \times 7$

Q4.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	$2 \times 2 \times 3 \times 7$	M1 A1	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 for $2 \times 2 \times 3 \times 7$ oe	Condone the use of 1 Accept $2^2 \times 3 \times 7$
(b)	420	M1 A1	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 420 or $2 \times 2 \times 3 \times 5 \times 7$ oe	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 fit this factor tree in part3 (b) for M1 only

Q5.

Question	Working	Answer	Mark	Notes
(a)	$54 \div 2 = 27$ $27 \div 3 = 9$ $9 \div 3 = 3$ $3 \div 3 = 1$	$2 \times 3 \times 3 \times 3$	2	M1 for attempt at prime factorization (at least two correct divisions): could be shown as a factor tree OR sight of at least one of each of 2, 3 as factors of 54 A1 for $2 \times 3 \times 3 \times 3$ or 2×3^3
(b)	45, 90, 135, 180, 225, 270, ... 54, 108, 162, 216, 270, ..	270	2	M1 for at least 3 multiples of 45 and 54 (can include 45, 54) or a correct method to write 45 as $3 \times 3 \times 5$ or $3^2 \times 5$ A1 cao