

Topic Test 1 Mark Scheme

Factors and multiples - Higher

Q	Answer	Mark	Comments
1	450	B1	
2(a)	Correct product using at least one prime factor eg 2 (x) 140 or 5 (x) 56 or 7 (x) 40 or 2 (x) 2 (x) 70 or 2 (x) 5 (x) 28	M1	May be implied eg in a factor tree or by repeated division
	$2 \times 2 \times 2 \times 5 \times 7$ or $2^3 \times 5 \times 7$	A1	
2(b)	28	B2	B1 $2 \times 2 \times 7$ oe
3	Any set of three primes a , b and c with $a + b = 2c$ eg $a = 3$, $b = 7$, $c = 5$ $a = 5$, $b = 17$, $c = 11$	B2	B1 a and b prime, c non-prime with $a + b = 2c$
4	Lists the odd multiples of 3 (to at least 15)	M1	3, 9, 15, (21, 27, 33, ...)
	States a common factor of 180 and 750	M1	2, 3, 5, 6, 10, 15, 30
	15	A1	SC2 30 SC1 3
5	1210	B1	
6	8	B3	B2 8 or 124 or 2 and 31
	124		B1 Two numbers, a and b with a prime and $b = 3a$ or any answer which is four times a prime number

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7	$2^2 \times 8^3$	B1	
8	12	B2	B1 48 or 36
9	Alternative method 1		
	Identifies 3 possibilities for final digit or A product of four numbers with at least two of 6, 6, 6, 3	M1	
	A product of four numbers with at least three of 6, 6, 6, 3	M1dep	
	648	A1	
	Alternative method 2		
	1296	M1	Total possible combinations
	their $1296 \div 2$	M1dep	
	648	A1	