Topic Test 1 Mark Scheme

Factors and multiples - Foundation

Q	Answer	Mark	Comments
1	30	B1	
2	7	B1	
3	**Alternative method 1**		
	Lists the multiples of 6 and 10 6, 12, 18, 24, 30, ... 10, 20, 30, ...	M1	Writes out the multiples to at least 30
	30	A1	May be implied by one correct number of packs
	5 3	B1ft	ft their multiple of 30
	Alternative method 2		
	Lists the prime factors of 6 and 10 $6 = 2 \times 3$ $10 = 2 \times 5$	M1	
	$2 \times 3 \times 5$	A1	May be implied by one correct number of packs
	5 3	B1ft	ft their multiple of 30

Q	Answer	Mark	Comments
4(a)	(SC) MC JC SR MR JR SP MP JP	B2	Condone any unambiguous listing B1 at least 5 new combinations Ignore extra or repeat combinations for B1 only
4(b)	CI RI PI CF RF PF or 3 × 2 or 6	M1	
	3	A1ft	ft the total of their combinations from (a) if greater than 6
5	eg 12 is a multiple of 2 and 4 and 12 ÷ 8 = 1.5 or 12 is not a multiple of 8	B1	
6	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 $a + b = 2c$
7	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

Q	Answer	Mark	Comments
8	450	B1	
9(a)	Correct product using at least one prime factor eg 2 (×) 140 or 5 (×) 56 or 7 (×) 40 or 2 (×) 2 (×) 70 or 2 (×) 5 (×) 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	
9(b)	28	B2	B1 $2 \times 2 \times 7$ oe