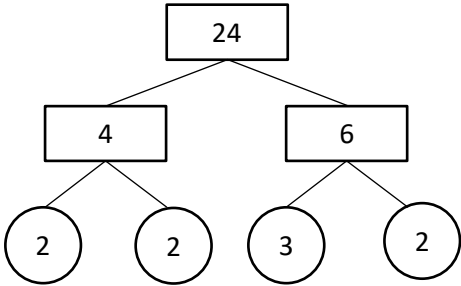
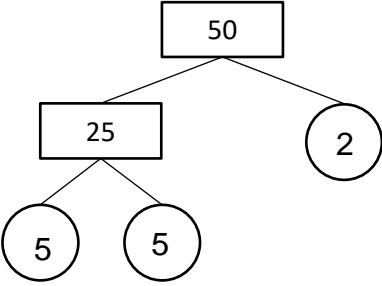
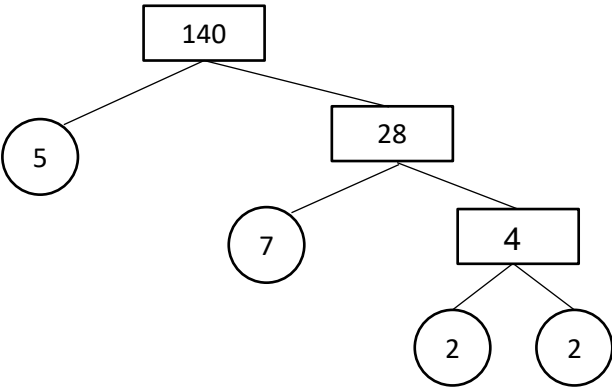
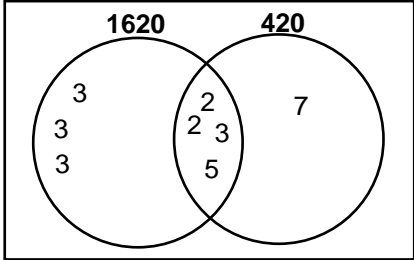
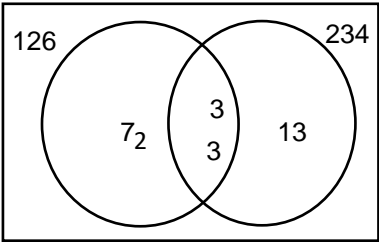
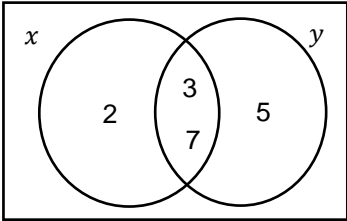
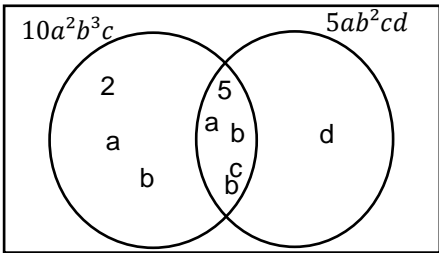


Prime Factors, HCF, and LCM Mark Scheme		
1(a)	5, 7, 29, 17, 2, 3	[1] All six primes (in any order)
1(b)	A number that can only be divided by itself and 1	[1] Any equivalent definition
2(a)		[2] All correct prime factors (-1 mark per incorrect factor)
2(b)		[2] All correct prime factors (-1 mark per incorrect factor)
2(c)		[2] All correct prime factors (-1 mark per incorrect factor)
3(a)	$72 = 2 \times 2 \times 2 \times 3 \times 3$	[1] Correct value for a
	$72 = 2^3 \times 3^2$ , so $a = 3$ , $b = 2$	[1] Correct value for b
3(b)	$90 = 2 \times 3 \times 3 \times 5$	[1] Calculation
	$90 = 2 \times 3^2 \times 5$	[1] Final answer
3(c)	$160 = 2 \times 2 \times 2 \times 2 \times 2 \times 5$	[1] Calculation
	$160 = 2^5 \times 5$	[1] Final answer

Turn over ►

4(a)	$1620 = 2 \times 2 \times 3 \times 3 \times 3 \times 3 \times 5$	[1] Calculation
	$1620 = 2^2 \times 3^4 \times 5$	[1] Final answer
4(b)	$420 = 2 \times 2 \times 3 \times 5 \times 7$	[1] Calculation
	$420 = 2^2 \times 3 \times 5 \times 7$	[1] Final answer
4(c)		[2] All correct prime factors (-1 mark per incorrect factor)
4(d)	60	[1] Correct HCF
4(e)	21	[1] Correct LCM
5	$126 = 2 \times 3 \times 3 \times 7 = 2 \times 3^2 \times 7$ $234 = 2 \times 3 \times 3 \times 13 = 2 \times 3^2 \times 13$	[1] Correct factors
		[1] All correct prime factors
	$HCF = 2 \times 3 \times 3 = 18$ $LCM = 2 \times 3 \times 3 \times 7 \times 13 = 1638$	[1] Correct answers
6		[1] Venn diagram (2 and 5 can be other way around)
	$x = 2 \times 3 \times 7 = 42$ $y = 3 \times 7 \times 5 = 105$	[2] For 42 and 105 (either way around)
7		[1] Venn diagram
	$HCF = 5 \times a \times b \times b \times c = 5ab^2c$	[1] Correct answer
	$LCM = 2 \times a \times b \times 5 \times a \times b \times b \times c \times d$ $= 10a^2b^3cd$	[1] Correct answer

END