

Question			Answer	Marks	Part Marks and Guidance	
1			125	3	nfw M1 for $750 / 150 [= 5]$ or $150 = 2 \times 3 \times 5^2$ oe – need not be expressed as product AND M1 for use of <u>extra</u> factor of 5 with factors of 150 – must use the 25 already there	eg M1 for 50×5 May see trials with various factors $\times 5$ – allow this second M1 providing at least one trial earning it seen eg M1 for $125 = 5^3$ seen in working but not as answer

2	(a)		288	1		
	(b)		$(9 + 3) \times (7 - 5) = 24$	1	Ignore superfluous pairs of brackets	
	(c)		72	3	nfw M2 for $360 = 72 \times 5$ and $216 = 72 \times 3$ OR M1 for an attempt at a factor tree or for division for 360 or 216, with at least three successive divisions by primes M1 for correct factor tree or division for $360 (= 2^3 \times 3^2 \times 5)$ or $216 (= 2^3 \times 3^3)$	May be from trials, trees or multiples

3	(a)	2.2 oe	1	Allow 11/5	
	(b)	(i) $2^2 \times 3^3 \times 5$ oe	3	Must have product; M2 for fully correct factor tree or division Or M1 for at least two of 2, 3 and 5 found / given as prime factors	Allow this M1 even if errors in factor tree or division oe; may be obtained independently by divisibility tests
		(ii) 2700	2	M1 for 540×5 or for $50 = 2 \times 5^2$ or for list of first 5 multiples of 540: [540], 1080, 1620, 2160, 2700 (condone one error in multiples, FT)	Allow M1 for fully correct factor tree or division for 50

4		36	2	<p>B1 for 12 or 9 or 18 as answer</p> <p>Or B1 for prime factorisation of 108 and 72 (may be in tree or division or Venn diagram) condoning one error</p> <p>Or B1 for</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td>108</td> <td>72</td> </tr> <tr> <td>4</td> <td>27</td> <td>18</td> </tr> <tr> <td>3</td> <td>9</td> <td>6</td> </tr> <tr> <td>3</td> <td>3</td> <td>2</td> </tr> </table> <p>Or B1 for $2 \times 2 \times 3 \times 3$ oe</p> <p>Or B1 for $72 = 2 \times 36$ and $108 = 3 \times 36$</p>		108	72	4	27	18	3	9	6	3	3	2	B0 for just 3^2
	108	72															
4	27	18															
3	9	6															
3	3	2															

5	(a)		$33.6, \frac{168}{5}$ or $33\frac{3}{5}$	2	B1 for other answers rounding to 33.6 or for both 282.24 and 8.4 seen oe as fractions	B0 for correct answer seen then spoilt since obtainable from $3.6 \times 2 + 13.2 \times$
	(b)		$4 + (5 \times 6)^2$	1	Condone extra pairs of superfluous brackets	
	(c)	(i)	$2^3 \times 3 \times 5$	2	Product required but indices need not be used M1 for 2, 3, 5 and no others or for factor tree or division with at least two of 2, 3 and 5 found as factors	
		(ii)	840	3	M2 for 120×7 or $2^3 \times 3 \times 5 \times 7$ oe or for correct Venn diagram or for lists of multiples of each of 120 and 42 where both lists go past 400 (condoning one error) Or M1 for $42 = 2 \times 3 \times 7$ oe (eg seen in Venn diagram or factor tree or division; product not required) or for lists of at least 4 multiples of each of 120 and 42 (condoning one error)	Lists may start with 120 and 42 or eg 240 and 84 or higher

6	(a)	$2^2 \times 3 \times 5 \times 7$ oe	2	Must be expressed as product M1 for at least two of 2, 3, 5, 7 seen as factors isw	Do not allow 1 in the product for 2 marks e.g. may be seen in division or factor tree
	(b)	HCF = 6 LCM = 1260	1 2	M1 for any of the following seen anywhere 3 multiples of 18 and 3 multiples of 420 or 420×3 or for $2^2 \times 3^2 \times 5 \times 7$ or any multiples of 1260	e.g. HCF = 1260 scores M1