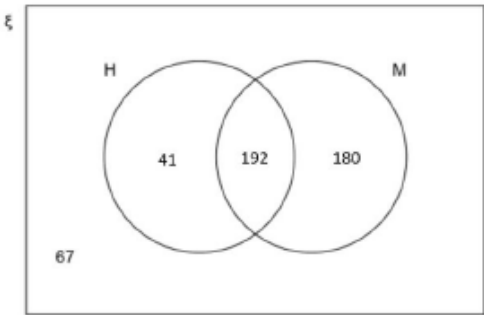
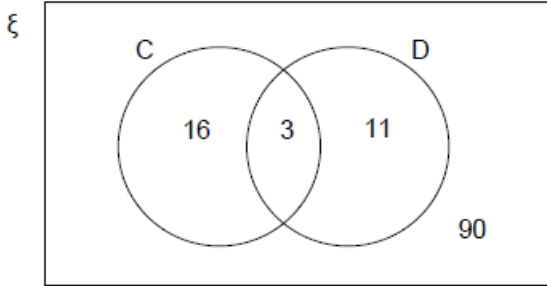


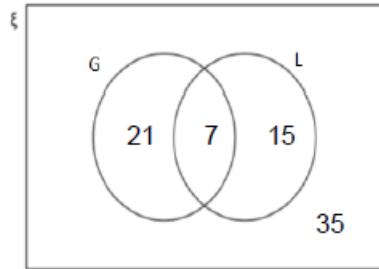
1(a)	$\frac{8}{21}$	B1	oe fraction, decimal or percentage
	Additional Guidance		
	Ignore attempts to convert a correct fraction to a decimal or percentage		B1
1(b)	$\frac{4}{15}$	B1	oe fraction, decimal or percentage
	Additional Guidance		
	Ignore attempts to convert a correct fraction to a decimal or percentage		B1
1(c)	$\frac{28}{36}$ and $\frac{25}{36}$ or 28 and 25	B2	oe fractions with common denominators, decimals or percentages  B1 $\frac{28}{36}$ or $\frac{25}{36}$  or 13, 11 and 4 or 28 or 13, 8 and 4 or 25  or Venn diagrams drawn showing both correct regions
	Additional Guidance		
	28 or 25 as a numerator with an incorrect denominator		B1

Q	Answer	Mark	Comments
2	$480 \times 0.4$ or 192	M1	oe implied by 2400
	$480 \times \frac{3}{8}$ or 180	M1	oe implied by 1440
	$480 - \text{their } 192 - \text{their } 180 - 67$ or 41	M1	oe implied by 287
	their $192 \times 12.5 + \text{their } 180 \times 8 + \text{their } 41 \times 7$ or $2400 + 1440 + 287$	M1	
	4127	A1	
	<b>Additional Guidance</b>		
	Method marks may be awarded for correct work seen on Venn diagram or in working, with no or incorrect answer, even if this is seen amongst multiple attempts		
	For the 4 <sup>th</sup> method mark, incorrectly placed values from their Venn diagram may be used or values connected to the correct category eg if house only and museum only values transposed on the Venn diagram accept their $192 \times 12.5 + \text{their } 41 \times 8 + \text{their } 180 \times 7$		
			
	$40\% \text{ of } 413 = 165, \frac{3}{8} \text{ of } 165 = 62, 413 - 62 - 165 = 186$ $165 \times 12.50 + 62 \times 8 + 186 \times 7 = 3860.50$		M0M0M1M1A0
	$H = 154.875, H \& M = 165.2$ $480 - 67 - 154.875 - 165.2$		M0M0M1

Q	Answer	Mark	Comments
3	Valid criticism referring to one or both sets not being labelled	B1	eg the circles should be labelled or the labels are missing
	Valid criticism referring to the numbers not adding to 98	B1	eg the numbers add to 99 or 48 should be 47 SC1 no written criticisms, but circles labelled correctly and 48 changed to 47 on diagram
	<b>Additional Guidance</b>		
	Accept both statements written in one criticism		
	For more than two criticisms mark the best two unless contradicted		
	Condone written corrections as criticisms eg Add labels		B1
	Criticism 1 - There is no A label and Criticism 2 - There is no F label		B1B0
	Didn't label the diagram		B1
	There are no subjects		B1
	The diagram doesn't have labels/headings/titles		B1
	The diagram doesn't have a label/heading/title		B0
	It doesn't show how many study French		B0
	48 is wrong/one of the numbers is wrong		B1
	There's an extra student		B1
	It doesn't add up correctly/the total is wrong		B1
	It doesn't add up		B0
	The numbers are wrong		B0
	Do not accept an incorrect statement eg The number doing Art and French should be 47		B0
	If a value is used as evidence it must be correct eg the total is 100, not 98		B0

Q	Answer	Mark	Comments
4(a)	$\frac{13}{100}$ or 0.13 or 13%	B1	oe fraction, decimal or percentage
Q	Answer	Mark	Comments
4(b)	$\frac{59}{100}$ or 0.59 or 59%	B1	oe fraction, decimal or percentage SC1 answers 13 in (a) and 59 in (b) or $\frac{13}{x}$ in (a) and $\frac{59}{x}$ in (b) where $x$ is an integer $\geq 59$
Q	Answer	Mark	Comments
4(c)	$\frac{89}{100}$ or 0.89 or 89%	B1	oe fraction, decimal or percentage SC1 answers 13 in (a) and 89 in (c) or $\frac{13}{x}$ in (a) and $\frac{89}{x}$ in (c), where $x$ is an integer $\geq 89$ or answers 59 in (b) and 89 in (c) or $\frac{59}{x}$ in (b) and $\frac{89}{x}$ in (c), where $x$ is an integer $\geq 89$
			<b>Additional Guidance</b>
			13 in (a) and 59 in (b) and 89 in (c) scores 0, SC1, SC1

Q	Answer	Mark	Comments
5	$120 \div 4 \times 3$ or 90	M1	oe implied by 90 in the box and outside the circles
	$14 + 19 + \text{their } 90 - 120$ or $14 + 19 - 120 \div 4$ or 3 or $19 - \text{their } 3 \text{ in C only}$ and $14 - \text{their } 3 \text{ in D only}$	M1	oe their 90 must be $> 87$ $0 < \text{their } 3 < 14$
	16, 3, 11 and 90 in correct positions	A1	SC1 their 4 Venn diagram values total 120, allow a blank intersection to imply 0
	<b>Additional Guidance</b>		
	Allow up to M1M1 for working outside Venn diagram but Venn diagram takes precedence over working		
	3 in the intersection with 90 in the box and outside the circles		M1M1
	3 in the intersection with a different number to 90 in the box and outside the circles		M0M1
			M1M1A1

Q	Answer	Mark	Comments	
6(a)	Fully correct diagram 	B3	B2 two or three correct numbers in correct positions B1 one correct number in correct position	
	Additional Guidance			
	Only mark the numbers in the diagram			

Q	Answer	Mark	Comments
6(b)	$\frac{7}{22}$ or 0.318(...) or 31.8(...)%	B1ft	oe fraction, decimal or percentage correct or ft their diagram
	<b>Additional Guidance</b>		
	Answer as a ratio with or without $\frac{7}{22}$ seen		B0
	Answer in words with $\frac{7}{22}$ seen		B1
	Answer in words without $\frac{7}{22}$ seen		B0
	$\frac{7}{22}$ seen with incorrect conversion to decimal or percentage		B1
	Ignore any attempt to simplify or convert their $\frac{7}{22}$		B1ft

Q	Answer	Mark	Comments
7	Only intersection shaded	B1	mark intention