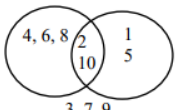
VENN DIAGRAMS

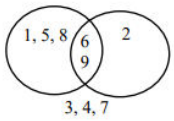
Pearson Edexcel - Thursday 4 June 2020 - Paper 2 (Calculator) Foundation Tier

1.

22	(a)	Venn diagram	M1	for correct numbers in at least one region	Ignore all entries except the region you are marking for each method mark
			M1	for correct numbers in at least two regions	
			A1	for all regions correct	
	(b)	$\frac{2}{10}$	M1	for $\frac{a}{10}$ where $0 < a < 10$ and a is an integer **or** $\frac{2}{b}$ where $b > 2$ and b is an integer **or** ft diagram	Need not be written in correct form at this stage eg could be a ratio 2 : 10 Repeated digits in the diagram should be counted as 2 elements
			A1	$\frac{2}{10}$ oe or ft diagram	Accept any equivalent fraction, decimal form 0.2 or percentage form 20%

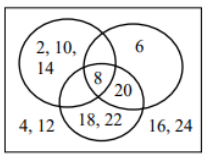
Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Foundation Tier

2.

24	(a)	6,9	M1	for 6, 9 in the intersection only	Ignore all entries except the region you are marking for each method mark
		1,5,8 2 3, 4,7	M1	for 1, 5, 8 in set A only or 2 in set B only or 3, 4, 7 in set $(A \cup B)'$ only	
			C1	for all numbers correctly placed in the Venn Diagram	
	(b)	$\frac{2}{9}$	M1	ft for identification of 2 or 9 or ft diagram	Need not be written in correct form at this stage eg could be a ratio 2 : 9 Repeated digits in the diagram should be counted as 2 elements
			A1	$\frac{2}{9}$ oe or ft diagram	Accept any equivalent fraction, decimal form 0.22(22..) or percentage form 22(.22…)%

Pearson Edexcel - Thursday 8 November 2018 - Paper 2 (Calculator) Foundation Tier

3.

20	(a)	Venn diagram	C4	fully correct Venn diagram	
			(C3	7 of the 8 regions correct **or** for a diagram with only one number incorrectly placed)	
			(C2	5 or 6 of the 8 regions correct)	
			(C1	3 or 4 of the 8 regions correct)	
	(b)	$\frac{1}{12}$	M1	ft for identification of 1 or 12 eg from the diagram	Need not be written as a fraction or probability at this stage. eg could be a ratio 1:12
			A1	ft oe	Acceptable equivalents are (eg, could ft) any fraction equivalent to $\frac{1}{12}$, 0.08(33..) or 8(.33..)%

Pearson Edexcel - Thursday 24 May 2018 - Paper 1 (Non-Calculator) Foundation Tier

4.

18	(a)	15, 17, 19, 20, 21, 23, 25	M1	for listing either set eg 15,20,25 **or** 15,17,19,21,23,25 with no incorrect numbers	The 'lists' may be seen in a Venn Diagram or in the working space in part (b) provided they are not contradicted by incorrect lists in part (a)
			A1	15,17,19,20,21,23 and 25 with no repeats	If repeats (but no incorrect numbers) award M1 only.
	(b)	Statement or 15 and 25	C1	eg odd multiples of 5 (between 14 and 26) oe NB Could be a general description, eg numbers that are in both (A and B), **or** 15 and 25 (ft from their sets A and B in part (a)) **or** numbers ending in 5 (between 14 and 26)	

Pearson Edexcel – Specimen 2 - Paper 2 (Calculator) Foundation Tier

5.

26	(a)(i)		10, 12, 14, 15, 16, 18	B1	cao
	(ii)		12, 18	B1	cao
	(b)		$\frac{7}{10}$	M1	for 7 or indicating correct region or for 10, 14, 16, 11, 13, 17, 19 listed
				A1	for $\frac{7}{10}$ oe

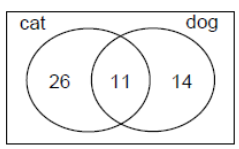
Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

6.

20		Venn diagram	M1 for two overlapping ovals M1 for only 2 and 6 in the intersection M1 for only 5 and 7 in the universal set only C1 for a fully correct Venn Diagram

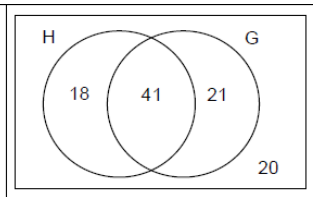
OCR – Tuesday 03 November 2020- Morning - Paper 1 (Calculator) Foundation Tier

7.

9	**(a)**			**1**		Must be numerical values In this part, condone their (b) (i) misplaced
	(b)	**(i)**	8 cao	**1**		
		(ii)	*Their* (i) written outside circles but inside rectangle	**1FT**		Strict **FT**
	(c)		$\frac{25}{59}$ oe probability	**2**	**FT** *their* (11 + 14) must be < 59 for 2 or 1 mark **M1** for *their* 11 + *their* 14	isw an incorrect simplification of their correct probability not as a denominator

OCR Thursday 07 November 2019- Morning (Non-Calculator) Foundation Tier

8.

22	**(a)**			**3**	**B2** for 18 or 41 or 21 correctly placed. or **B1** for the total of H = 59 or the total of G = 62 or all 3 sections add up to 80	Do not accept a blank region to represent 0

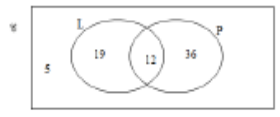
OCR Tuesday 21 May 2019 – Morning (Calculator) Foundation Tier

9.

7			42 cao	**3**	**B1** for 9 for tennis only, in working or diagram **M1** for 8 + 14 + 11 + *their* 9 oe Can be implied from values on diagram or their working and *their* answer. Do not allow 11 + 22 + 8 + 17 = 58	

OCR Tuesday 6 November 2018 – Morning (Calculator) Foundation Tier

10.

27	**(a)**			**3**	**B2** for three correct entries ignore labels or **B1** for one element in the correct place	
	(b)		$\frac{36}{72}$ oe	**2**	**FT** *their* labelled Venn diagram (2 sets) for **2** marks e.g. $\frac{their36}{72}$ **B1** for $\frac{k}{72}$ where k < 72	isw cancelling and conversion, accept 50% for **2** marks

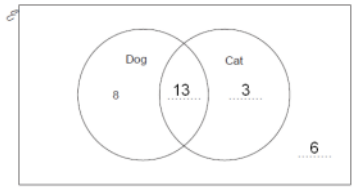
OCR Thursday 7 June 2018 – Morning (Non Calculator) Foundation Tier

11.

10	**a**	**i**	2	**2**	**M1** for 29 – (13 + 5 + 9) oe	
		ii	18	**1**		
		iii	$\frac{9}{29}$	**1**		Do not accept a ratio Do not accept eg 9 in 29
	b		0	**1**		Accept none, zero, nil

OCR Sample Question Paper 1 – Morning/Afternoon (Calculator) Foundation Tier

12.

6				**3** **3 AO1.3b**	**B1** for 13 in 'intersection' **B1** for (16 – *their* '13') in 'Cat' **B1** for sum of 8 + *their* three numbers = 30	

AQA Tuesday 19 May 2020 – Morning (Non-Calculator) Foundation Tier

13.

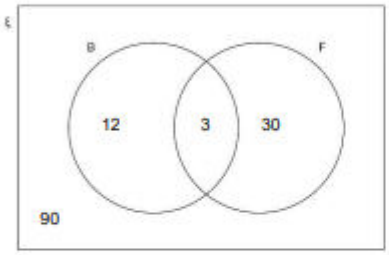
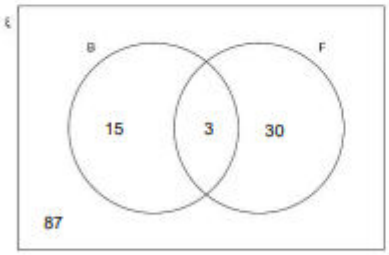
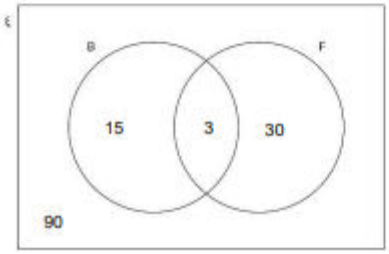
Q	Answer	Mark	Comments
12(a)	29	B1	
	Additional Guidance		
	Accept 29 out of 50 Do not accept $\frac{29}{50}$ or 29 : 50		

Q	Answer	Mark	Comments
12(b)	4	B1	
	Additional Guidance		
	Accept 4 out of 50 Do not accept $\frac{4}{50}$ or 4 : 50		

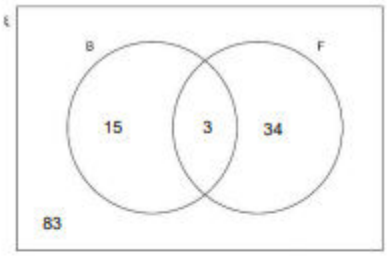
Q	Answer	Mark	Comments
12(c)	$\frac{17}{50}$ or 0.34 or 34%	B1	oe fraction
	Additional Guidance		
	Ignore attempts to simplify or convert a correct fraction		
	Ignore probability words		
	17 out of 50 or 17 in 50 or 17 : 50 is B0 however, condone 17 out of 50 or 17 in 50 with a correct fraction, decimal or percentage (together on answer line) but do not accept 17 : 50 with a correct fraction, decimal or percentage (together on answer line)		B1 B0

AQA Thursday 6 June 2019 – Morning (Calculator) Foundation Tier

14.

14(a)	3 in the intersection	B1	
	12 in the left hand part of B	B1	
	30 in the right hand part of F	B1	
	All four sections total 135	B1	must be using integers > 0 and have one integer in each of the four sections
	Additional Guidance		
	Mark the diagram		
	Ignore any correct or incorrect numbers on the diagram outside the rectangle eg 135		
			B1B1B1B1
			B1B0B1B1
			B1B0B1B0

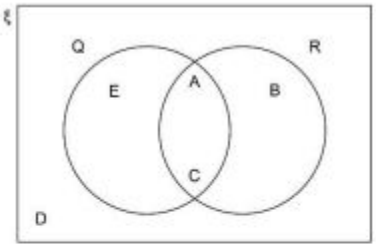
Additional Guidance continued on the next page

14(a) cont		B1B0B0B1
	Two integers in one section is choice and doesn't score the mark for that section or the final mark	
	Condone multiple letters or tallies or crosses etc instead of numbers for all the marks	

14(b)	$\frac{15}{135}$ or $\frac{5}{45}$ or $\frac{3}{27}$ or $\frac{1}{9}$ or $0.\dot{1}$ or 0.11(1…) or 11(.1…)%	B1	oe fraction decimal or percentage
	Additional Guidance		
	Ignore attempts to simplify or convert a correct fraction to a decimal or percentage		
	15 out of 135		B0
	0.1 without correct fraction seen		B0
	Ratio		B0

AQA Tuesday 6 November 2018 – Morning (Non-Calculator) Foundation Tier

15.

18		B3	D can be anywhere inside the rectangle and outside the circles B2 for 3 or 4 letter positions correct B1 for 1 or 2 letter positions correct
	Additional Guidance		
	Accept names of shapes written on diagram but do not accept first letter only (ambiguous)		
	Duplicating a letter in more than one region is choice and that letter cannot be counted as correct		
	Ignore anything written outside the rectangle		

AQA Tuesday 12 June 2018 – Morning (Calculator) Foundation Tier

16.

16	A and B	B1	
	Additional Guidance		

AQA Tuesday 12 June 2018 – Morning (Calculator) Foundation Tier

17.

23	Any two of Indication that there should be a number in the overlapping part Indication that the 12 should be inside the rectangle The numbers add up to 22 The universal set has not been defined	B2	B1 for any one correct criticism eg the numbers should be 5, 2, 1, 12 there should be 2 in the overlap eg 12 should be inside 12 shouldn't be outside
	Additional Guidance		
	Criticisms must be written on answer line		
	If a number in the overlapping part is specified in a criticism, it must be 2		
	12 written inside the rectangle with no or irrelevant comment		B0
	Accept a correct first criticism with an incorrect linked second criticism eg Criticism 1 – Should be 2 in the centre section Criticism 2 – Should be 7, 2, 3, 10		B1 B0
	Do not accept a correct and incorrect statement for the same criticism eg There should be 2 in the middle, so the numbers should be 7, 2, 3, 12		B0
	Examples of correct criticisms		
	Does not add up to 20		B1
	There's no number in the centre		B1
	12 is on the outside		B1
	He must have asked 22 people		B1
	Should be 7 – 2, 2, 3 – 2 (or 5, 2, 1)		B1

Continues on next page

23 cont	7 (or 3) is wrong	B1
	Some people have a dog and a cat	B1
	Examples of incorrect criticisms	
	Some pet owners might have a dog and a cat	B0
	12 should be inside the circle	B0
	7 means the whole circle not just the outside bit	B0
	12 should be 10	B0
	He hasn't written how many have neither	B0
	There is no title for both	B0
	You have to work out the middle for yourself	B0

AQA Wednesday 8 November 2017 – Morning (Calculator) Foundation Tier

18.

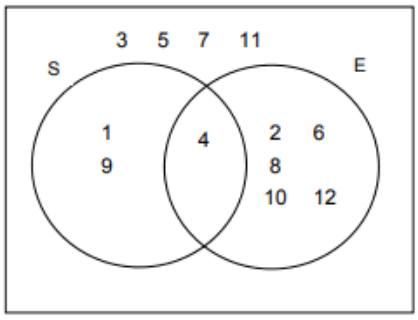
	Alternative method 1 of 3		
	98 in the singles non-intersecting part and 34 in the doubles non-intersecting part or $98 + x$ or $34 + x$	M1	
	$98 + x = 2(34 + x)$	M1dep	oe $\frac{1}{2}(98 + x) = 34 + x$
	$98 + x = 68 + 2x$	M1dep	oe $49 + \frac{1}{2}x = 34 + x$
	30	A1	
20	**Alternative method 2 of 3**		
	98 in the singles non-intersecting part and 34 in the doubles non-intersecting part	M1	
	34 × 2 or 68 or 98 ÷ 2 or 49 or 98 – 34 or 64	M1	second M1 implies M1M1
	98 – their 68 or 2 × (their 49 – 34) or their 64 – 34 or 2 × their 64 – 98	M1	third M1 implies M1M1M1
	30	A1	

Alternative method 3 continues on the next page

20 cont	**Alternative method 3 of 3**		
	One complete trial correctly evaluated eg 98 + 10 = 108 and 34 + 10 = 44 and 108 ÷ 2 = 54 or 44 × 2 = 88 (and No)	M1	oe 108 ÷ 2 = 54 or 44 × 2 = 88 is not required if a second trial is done
	Second complete trial correctly evaluated eg 98 + 20 = 118 and 34 + 20 = 54 and 118 ÷ 2 = 59 or 54 × 2 = 108 (and No)	M1	oe 118 ÷ 2 = 59 or 54 × 2 = 108 is not required if a third trial is done
	Correct trial with both numbers and correctly evaluated 98 + 30 = 128 and 34 + 30 = 64	M1	
	30	A1	
	Additional Guidance		
	Working may be shown on Venn diagram		
	30 shown in intersection in Venn diagram unless contradicted by final answer		M1M1M1A1
	2 × 98 – 2 × 34 – 98 oe		M1M1M1
	98 and 34 correctly positioned in Venn diagram may be replaced by working or have additional working		
	eg 34 in Venn diagram replaced by or with 68		M1M1
	eg 98 in Venn diagram replaced by or with 49		M1M1
	98 and 34 incorrectly positioned in Venn diagram may be recovered by working		

AQA Sample Paper 2– Morning (Calculator) Foundation Tier

19.

22(a)		B3	B2 Any 2 or 3 of the 4 sections correct B1 Any 1 of the 4 sections correct
22(b)	$\frac{1}{12}$	B1ft	oe ft their Venn diagram