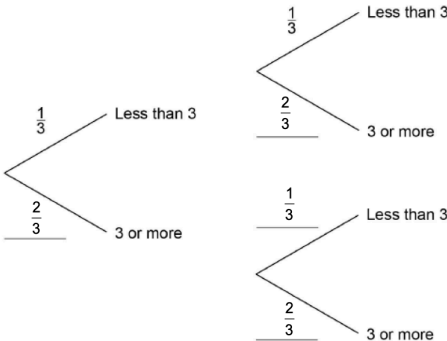


Q1. (2018)

(A)

22(a)	$\frac{1}{3}$ or $\frac{2}{6}$ or 0.33... or 33.(...)% on each top branch and $\frac{2}{3}$ or $\frac{4}{6}$ or 0.66... or 0.67 or 66.(...)% or 67% on each bottom branch	B1	accept any equivalent fraction, decimal or percentage
	Additional Guidance		
	Decimals must have at least 2 decimal places so do not accept 0.3 or 0.6 or 0.7		
	Only accept the percentages shown, do not accept 30% or 60%		
	Ignore working around the edge of the diagram		
	 <p>The diagrams show four different ways to represent the same probability tree. Each tree starts with a branch to $\frac{1}{3}$ labeled 'Less than 3' and a branch to $\frac{2}{3}$ labeled '3 or more'. The four diagrams are arranged in a 2x2 grid, showing different ways to draw the branches and labels.</p>	B1	

(B)

22(b)	$\frac{1}{9}$ or 0.11... or 11.(...)%	B1	
	Additional Guidance		
	Ignore probability words such as 'unlikely' or 'evens'		
	Accept equivalent answers eg $\frac{2}{18}$, $\frac{3}{27}$, 0.1		
	Do not accept 0.1 or 10%		

Q2. (2019)

9	Alternative method 1		
	56×24.5 or 1372 or 21×27.5 or 577.5 or $(14 + 8) \times 18$ or 22×18 or $14 \times 18 + 8 \times 18$ or $252 + 144$ or 396	M1	amount for basic or amount for sports or amount for movies or
	Any two of 56×24.5 or 1372 or 21×27.5 or 577.5 or $(14 + 8) \times 18$ or 22×18 or $14 \times 18 + 8 \times 18$ or $252 + 144$ or 396	M1dep	any two of the above implies M2
	56×24.5 + 21×27.5 + $(14 + 8) \times 18$ or 22×18 or $14 \times 18 + 8 \times 18$ or $252 + 144$ or $1372 + 577.5 + 396$ or 2345.5	M1dep	full method that would lead to 2345.5 if evaluated correctly implies M3
	2345.50	A1	

9 cont	Alternative method 2		
	$14 \times (24.5 + 27.5 + 18)$ or 14×70 or 980 or $7 \times (24.5 + 27.5)$ or 7×52 or 364 or $8 \times (24.5 + 18)$ or 8×42.5 or 340 or 27×24.5 or 661.5	M1	amount for all 3 packages or amount for basic + sports or amount for basic + movies or amount for basic only
	Any two of $14 \times (24.5 + 27.5 + 18)$ or 14×70 or 980 or $7 \times (24.5 + 27.5)$ or 7×52 or 364 or $8 \times (24.5 + 18)$ or 8×42.5 or 340 or 27×24.5 or 661.5	M1dep	any two of the above implies M2
	$14 \times (24.5 + 27.5 + 18)$ or 14×70 + $7 \times (24.5 + 27.5)$ or 7×52 + $8 \times (24.5 + 18)$ or 8×42.5 + 27×24.5 or $980 + 364 + 340 + 661.5$ or 2345.5	M1dep	full method that would lead to 2345.5 if evaluated correctly implies M3
	2345.50	A1	

9 cont	Alternative method 3		
	$56 \times (24.5 + 27.5 + 18)$ or 56×70 or 3920 or 35×27.5 or 962.5 or $(27 + 7) \times 18$ or 34×18 or $27 \times 18 + 7 \times 18$ or $486 + 126$ or 612	M1	amount if everyone has all 3 packages or amount for not having sports or amount for not having movies
	Any two of $56 \times (24.5 + 27.5 + 18)$ or 56×70 or 3920 or 35×27.5 or 962.5 or $(27 + 7) \times 18$ or 34×18 or $27 \times 18 + 7 \times 18$ or $486 + 126$ or 612	M1dep	any two of the above implies M2
	$56 \times (24.5 + 27.5 + 18)$ or 56×70 or 3920 – 35×27.5 or 962.5 – $(27 + 7) \times 18$ or 34×18 or $27 \times 18 + 7 \times 18$ or $486 + 126$ or 612 or $3920 - 962.5 - 612$ or 2345.5	M1dep	full method that would lead to 2345.5 if evaluated correctly implies M3
	2345.50	A1	

9 cont	Additional Guidance	
	2345.50(p)	M1M1M1A1
	2345.5	M1M1M1A0
	Working may be seen on the diagram	
	Allow all decimal values to be seen as equivalent fractions eg $\frac{1155}{2}$ for 577.5 for the M marks	
	A 'correct' calculation does not have to be evaluated correctly	
	Division or multiplication by 12 or division by 56 at the end will only lose the A mark eg $2345.50 \div 56 = 41.88$ per person	M1M1M1A0
	For the first two marks use the scheme that awards the most credit and do not apply the rules of choice	
	Addition may be implied by a column of figures	

Q3. (2022)

20

Jose and Maria each take a test.

The probability that Jose passes is 0.8

The probability that Maria passes is 0.4

(A)

Q	Answer	Mark	Comments
20(a)	0.2 on Jose not pass	B1	oe fraction, decimal or percentage
	0.4 on Maria pass and 0.6 on Maria not pass twice	B1	oe fraction, decimal or percentage
	Additional Guidance		

(B)

Q	Answer	Mark	Comments
20(b)	0.32 or $\frac{32}{100}$ or $\frac{16}{50}$ or $\frac{8}{25}$ or 32%	B1	oe fraction, decimal or percentage
	Additional Guidance		
	Ignore simplification or conversion if correct answer seen		
	eg1 $\frac{32}{100}$ seen Answer $\frac{3}{10}$		B1
	eg2 $\frac{32}{100}$ seen Answer 3.2%		B1
	Ignore words if correct answer seen		
	eg1 $\frac{32}{100}$ seen Answer 32 out of 100		B1
	eg2 0.32, unlikely		B1
	Answer given as ratio (even if correct answer also seen)		
	eg 32 : 100		B0
	Answer only in words eg 32 out of 100		B0
	Only 32 (without %)		B0

Q4. (2023)

Q	Answer	Mark	Comments
8(a)	45 in No (Played)	B1	
	36 in No (More than one game played?)	B1	
	12 in Yes (More than one game played?)	B1ft	ft 48 – their 36 their 36 must be a positive integer less than 48
	Additional Guidance		
	Mark the frequency tree		
			B1B1B1
			B1B0B1ft

Q5. (2024)

Q	Answer	Mark	Comments
18(a)	$\frac{1}{4}$ (red) and $\frac{3}{4}$ (blue) for Bag A	B1	oe fractions, decimals or percentages
	$\frac{3}{5}$ (white) and $\frac{2}{5}$ (green) for both sections for Bag B	B1	oe fractions, decimals or percentages
	Additional Guidance		
	Percentages must have the % symbol		