

Q1. (2018)

24	Alternative method 1		
	<p>Any one of $60\,000 \div 420\,000$ or $0.14\dots$ or $14.(...)\%$ or $\frac{1}{7}$ or $480\,000 \div 420\,000$ or $1.14\dots$ or $114.(...)\%$ or $\frac{8}{7}$ or $420\,000 \div 60\,000$ or 7 or $420\,000 \div 480\,000$ or 0.875 or 87.5% or $\frac{7}{8}$ or $60\,000 \div 540\,000$ or $0.11\dots$ or $11.(...)\%$ or $\frac{1}{9}$ or $540\,000 \div 60\,000$ or 9</p>	M1	<p>oe eg $60\,000 : 420\,000$ or $1 : 7$ or $480\,000 : 420\,000$ or $8 : 7$</p>
24 cont	<p>Any one of $60\,000 \div 480\,000$ or 0.125 or 12.5% or $\frac{1}{8}$ or $540\,000 \div 480\,000$ or 1.125 or 112.5% or $\frac{9}{8}$ or $480\,000 \div 60\,000$ or 8 or $480\,000 \div 540\,000$ or $0.88\dots$ or 0.89 or $88.(...)\%$ or 89% or $\frac{8}{9}$</p>	M1	<p>must be a matching pair (could be different forms) to award M2 (see A1 for list of matching pairs) oe eg $60\,000 : 480\,000$ or $1 : 8$ or $540\,000 : 480\,000$ or $9 : 8$</p>
24 cont	<p>$\frac{1}{7}$ and $\frac{1}{8}$ and No or $\frac{8}{7}$ and $\frac{9}{8}$ and No or $0.14\dots$ and 0.125 and No or $14.(...)\%$ and 12.5% and No or $1.14\dots$ and 1.125 and No or $114.(...)\%$ and 112.5% and No or 7 and 8 and No or $\frac{7}{8}$ and $\frac{8}{9}$ and No or $\frac{1}{9}$ and $\frac{1}{8}$ and No or 9 and 8 and No or $0.11\dots$ and 0.125 and No or $11.(...)\%$ and 12.5% and No or 0.875 and $0.88\dots$ or 0.89 and No or 87.5% and $88.(...)\%$ or 89% and No</p>	A1	<p>oe eg $1 : 7$ and $1 : 8$ and No</p>

24 cont	Alternative method 2		
	No and any one of $\frac{60\,000}{420\,000} \times 480\,000$ and [67 200, 68 640] or $\frac{60\,000}{480\,000} \times 540\,000$ and 67 500 or $\frac{60\,000}{480\,000} \times 420\,000$ and 52 500 or $\frac{60\,000}{540\,000} \times 480\,000$ and [52 800, 53 334] or $\frac{420\,000}{480\,000} \times 540\,000$ and 472 500 or $\frac{480\,000}{420\,000} \times 480\,000$ and [547 200, 548 640] or $\frac{480\,000}{540\,000} \times 480\,000$ and [422 400, 427 200] or $\frac{540\,000}{480\,000} \times 420\,000$ and 472 500	B3	oe B2 any one of the calculations B1 any one of the fractions oe for equivalent fractions, decimals and percentages see Alternative method 1

24 cont	Additional Guidance	
	In Alt 1, for M2 the matching pair do not have to be in comparable form eg 14.3% and $\frac{1}{8}$ and No	M1M1A0
	For comparable fractions, they must be in their lowest terms or have the same numerators or the same denominators for the A1 eg Alt 1 $\frac{60\,000}{420\,000}$ and $\frac{60\,000}{480\,000}$ and No	M1M1A1
	For comparable ratios, they must be in their lowest terms or have the same LH sides or the same RH sides for the A1 eg Alt 1 60 000 : 420 000 and 60 000 : 480 000 and No	M1M1A1
	If working with percentages, condone absence of % symbol eg Alt 1 14 and 12.5 and No	M1M1A1
	Both are increases of 60 000 and it is then over different amounts so cannot be the same percentage	M0M0A0

Q2. (2019)

23(c)	$\frac{45+12}{380}$ or $\frac{57}{380}$ or $\frac{3}{20}$ or 0.15 or $100 \div \frac{380}{57}$ or $57 \div 3.8$	M1	oe proportion or calculation must use 380
	15	A1	
	Additional Guidance		
	$1 - \frac{59+158+106}{380}$ or $1 - \frac{323}{380}$ or $1 - \frac{17}{20}$ or $1 - 0.85$	M1	
	Correct proportion seen even if not subsequently used	M1A0	
	Do not allow misreads of 380		
	Build-up eg $10\% = 380 \div 10$ or 38 $5\% = 38 \div 2$ or 19 $38 + 19 = 57$ is M0A0 unless answer 15		

Q3. (2022)

Q	Answer	Mark	Comments					
18(a)	All values correct	B2	B1 1 or 2 rows correct					
	Additional Guidance							
		1	2	3	4	5	6	B2
	2x	2	4	6	8	10	12	
	3x	3	6	9	12	15	18	
	x ²	1	4	9	16	25	36	