

Q1 june 2017

10		1 : 10	M1 A1	for 12 : (20 × 6) oe or 10 : 1 or 1 with 10 in incorrect notation cao
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Q2 june 2018

14	Isabel (supported)	P1	for process to work with $\frac{3}{4}$ eg $1 - \frac{3}{4} (= \frac{1}{4})$ oe, eg 25% or $\frac{25}{100}$ or $\frac{3}{4} = 75\%$ or $\frac{75}{100}$ or value of salary (say 1000) × 3 ÷ 4 (= 750)	
		P1	for process to work with ratio 3 : 7 eg $\frac{3}{3+7}$ oe or $\frac{7}{3+7}$ oe or value of salary (say 1000) ÷ (3+7) (= 100)	
		A1	for (28(%)), 25(%) and 30(%) or 72(%), 75(%), 70(%) or 0.28, 0.25, 0.3 or for using value of salary (say 1000) giving 280, 250, 300 or 720, 750, 700	
		C1	(dep P2) for Isabel or fit their comparative values	“Isabel” alone without supported evidence, gets 0 marks.

Q3 june 2018

17	1 : 3	M1	for $\frac{1}{4} : \frac{3}{4}$ oe OR for any correct un-simplified ratio, eg 25 : 75	
		A1	cao SC: B1 for an answer of 3 : 1 or 1 : $\frac{1}{3}$ if M0 scored	Ignore ‘units’ such as 1 nuts : 3 no nuts 1 : 3n gets M1A0

Q4 june 2020

22	(a)	Yes (supported)	P1	for a process to find the area of one shape, eg $10 \times 8 (= 80)$ or $10 \times 5 (= 50)$ or $8 \times 6 (= 48)$ or $(10 - 6) \times 5 (= 20)$ or $(10 - 6) \times (8 - 5) (= 12)$ or $6 \times (8 - 5) (= 18)$ or $5 \times 6 (= 30)$	Do not award this mark if they go on to multiply by a third length
			P1	for a complete process to find the total area, eg “80” – “12” (= 68) or “50” + “18” (= 68) or “48” + “20” (= 68)	
			P1	for a complete process to find the area covered by 3 tins eg $3 \times 2.5 \times 10 (= 75)$ or for a complete process to find the number of litres needed eg “68” ÷ 10 (= 6.8) or [area] ÷ 10 or for a complete process to find the number of tins needed eg “68” ÷ 10 ÷ 2.5 (= 2.72) or [area] ÷ 10 ÷ 2.5	[area] is what they believe to be the area
			A1	for ‘Yes’ supported by correct figures eg 68 (m ²) and 75 (m ²) or 6.8 (litres) and 7.5 (litres) or 68 (m ²) and 2.72 (tins needed)	Ignore incorrect amount of paint left over if correct figures seen.
	(b)	No effect (supported)	C1	fit from (a) for “has no effect” with reason Acceptable examples No effect, she will need less paint It won’t change, she will still have enough No, she will have more paint left over No, as this will cover 82.5m ² Not acceptable examples Petra will need less paint She will have more paint left over She won’t have enough paint She will need more paint	Must have a decision in (a). Must include a decision eg yes / no / no effect. If figures included in the statement they must be correct for their [area] in (a).

Q5 june 2020

Subtopic: Ratio

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9	(a)	$\frac{3}{7}$	B1	oe	
	(b)	1 : 2.5	M1	for appropriate method shown eg $30 \div 12 (= 2.5)$ or for a method that involves simplification of 12 : 30 approaching 1 : n , eg. 4 : 10 or 6 : 15 or 2 : 5 or for 2.5 : 1 or $2\frac{1}{2} : 1$	
			A1	for 1 : 2.5 or 1 : $2\frac{1}{2}$ or for $n = 2.5$	Accept a fraction equivalent to $2\frac{1}{2}$, eg. $1 : \frac{30}{12}$ 2.5 alone gets M1A0

Q6 june 2020

15	7	P1	for $750 \times 9 (= 6750)$ or $1 + 9 (= 10)$ or $750 \div 1000 (= 0.75)$	
		P1	(dep) for "6750" + 750 (=7500) or for "10" $\times$ 750 (=7500) or "0.75" $\times$ "1 + 9" (= 7.5)	
		A1	cao Alternative	
		P1	for $100 + 900 (= 1000)$	
		P1	(dep) for $750 \div 100 (= 7.5)$	
		A1	cao	This can be implied by (1 litre of drink $\Rightarrow$) 100 (mL) of squash and 900 (mL) of water)

Q7 june 2020

29	6 : 15 : 20	P1	chooses a multiplier to equate the two fractions in terms of b eg $\frac{2}{5} \times \frac{3}{3} (= \frac{6}{15})$ or $\frac{3}{4} \times \frac{5}{5} (= \frac{15}{20})$ or lists equivalent fractions to $\frac{2}{5}$ up to at least $\frac{6}{15}$, eg. $\frac{2}{5}, \frac{4}{10}, \frac{6}{15}, \dots$ or lists equivalent fractions to $\frac{3}{4}$ up to at least $\frac{15}{20}$, eg. $\frac{3}{4}, \frac{6}{8}, \frac{9}{12}, \frac{12}{16}, \frac{15}{20}, \dots$ or $(a : b) = 2 : 5$ and $(b : c) = 3 : 4$ or for 6 : 15 or 15 : 20 seen	
		P1	puts into related terms ready for ratio eg $\frac{2}{5} \times \frac{3}{3} = \frac{6}{15}$ and $\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$ or for $(a : b) = 6 : 15$ and $(b : c) = 15 : 20$ or lists equivalent ratios up to a common element for b , eg $a : b = 2 : 5, 4 : 10, 6 : 15$ and $b : c = 3 : 4, 6 : 8, 9 : 12, 12 : 16, 15 : 20$	Need not be written in ratio form
		A1	for 6 : 15 : 20 oe	Accept equivalent ratios Accept $a = 6, b = 15$ and $c = 20$

Q8 june 2022

25	30	P1	for $160 \div (3+7) (= 16)$ or $\frac{3}{3+7} (= \frac{3}{10})$	
		P1	for “16” $\times 3 (= 48)$ or “ $\frac{3}{10}$ ” $\times 160 (= 48)$	
		P1	for a correct step using 48 eg “48” $\div 8 (= 6)$ or “48” $\times 25 \div 100 (= 12)$ or (indep) for combining $\frac{1}{8}$ and 25%, eg $\frac{1}{8} + \frac{1}{4} (= \frac{3}{8})$ or “0.125” + “0.25” $(= 0.375)$ or “12.5”(%) + 25(%) $(= 37.5(\%))$	
		P1	for a complete process to find the number of petrol cars, eg “48” – “6” – “12” oe or $(1 - \frac{3}{8}) \times “48”$ oe or $\frac{3}{10} \times (1 - \frac{3}{8}) \times 160$ oe	
		A1	cao	Award no marks for a correct answer with no supportive working
			SC B2 for an answer of 100 if P0 scored	

Q9 june 2024

10	2 : 3	M1	for 24 : 36 oe or 3 : 2 or 1.5 : 1	
		A1	2 : 3 or 1 : 1.5	Do not ISW from 2:3

Q10 Nov 2017

15		45	M1	for a correct first step eg $\frac{9}{7+4+9} (= \frac{9}{20})$ or $\frac{100}{7+4+9} (=5)$ or a full method for one of the other colours
			A1	cao

Q11 Nov 2018

13	4 : 1 : 2	M1	for start to express the statements as a ratio eg 4 : 1, 1 : 4, 1 : 2 or 2 : 1 with clear and correct link to Azmol, Ryan, Kim OR as algebraic expressions, two of 4x, x and 2x eg 4x : x, 1x : 4x, 1x : 2x or 2x : 1x with clear and correct link to Azmol, Ryan, Kim	Allow any equivalent ratio, integers only May be seen as part of an incorrect answer. May be seen as integer multiples of these algebraic expressions. Any letter may be used.
		A1	4 : 1 : 2 oe	Accept 8 : 2 : 4 or equivalent ratios involving integers
		(SCB1	3 integer numbers in correct ratio but no ratio notation, eg 4, 1, 2 or 20, 5, 10)	

Q12 Nov 2020

9	(a)	$\frac{3}{7}$	B1	oe	
	(b)	1 : 2.5	M1	for appropriate method shown eg $30 \div 12 (= 2.5)$ or for a method that involves simplification of 12 : 30 approaching 1 : n , eg. 4 : 10 or 6 : 15 or 2 : 5 or for 2.5 : 1 or $2\frac{1}{2}$: 1	
			A1	for 1 : 2.5 or $1 : 2\frac{1}{2}$ or for n = 2.5	Accept a fraction equivalent to $2\frac{1}{2}$, eg. $1 : \frac{30}{12}$ 2.5 alone gets M1A0

Q13 Nov 2020

15	7	P1	for $750 \times 9 (=6750)$ or $1 + 9 (=10)$ or $750 \div 1000 (=0.75)$	
		P1	(dep) for “6750” + 750 (=7500) or for “10” $\times$ 750 (=7500) or “0.75” $\times$ “1 + 9” (= 7.5)	
		A1	cao Alternative	
		P1	for $100 + 900 (=1000)$	
		P1	(dep) for $750 \div 100 (=7.5)$	
		A1	cao	This can be implied by (1 litre of drink $\Rightarrow$) 100 (ml) of squash and 900 (ml) of water)

Q14 Nov 2020

29	6 : 15 : 20	P1	chooses a multiplier to equate the two fractions in terms of b $\text{eg } \frac{2}{5} \times \frac{3}{3} (= \frac{6}{15})$ or $\frac{3}{4} \times \frac{5}{5} (= \frac{15}{20})$ or lists equivalent fractions to $\frac{2}{5}$ up to at least $\frac{6}{15}$, $\text{eg. } \frac{2}{5}, \frac{4}{10}, \frac{6}{15}, \dots$ or lists equivalent fractions to $\frac{3}{4}$ up to at least $\frac{15}{20}$, $\text{eg. } \frac{3}{4}, \frac{6}{8}, \frac{9}{12}, \frac{12}{16}, \frac{15}{20}, \dots$ or ($a : b =$) 2 : 5 and ($b : c =$) 3 : 4 or for 6 : 15 or 15 : 20 seen	
		P1	puts into related terms ready for ratio $\text{eg } \frac{2}{5} \times \frac{3}{3} = \frac{6}{15}$ and $\frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$ or for ($a : b =$) 6 : 15 and ($b : c =$) 15 : 20 or lists equivalent ratios up to a common element for b , $\text{eg } a : b = 2 : 5, 4 : 10, 6 : 15$ and $b : c = 3 : 4, 6 : 8, 9 : 12, 12 : 16, 15 : 20$	Need not be written in ratio form
		A1	for 6 : 15 : 20 oe	Accept equivalent ratios Accept $a = 6$, $b = 15$ and $c = 20$

Q15 Nov 2021

12	Yes, supported by correct working	P1	for 36 : 48 oe OR $\frac{36}{84}$ oe or $\frac{48}{84}$ oe	Relating to drama group 1
		P1	for $\frac{4}{7}$ or 3 : 4 oe (for group 2) OR $(\frac{36}{84} = \frac{3}{7})$ or $(\frac{48}{84} = \frac{4}{7})$ or $84 \times 3 \div 7 (=36 \text{ boys})$ or $84 \times 4 \div 7 (=48 \text{ girls})$ or $N \times 3 \div 7$ and $N \times 4 \div 7$	Relating to drama group 2
		A1	for Yes with both ratios 3 : 4 oe or for a correct pair of fractions and stating they are equivalent.	N can be any number (other than 84) of students in the 2 nd group Both equivalent forms of the ratios (fractions) must be the same “Yes” may be implied from working

Q16 Nov 2022

24	(a)(i)	$2 : 6 : 5$	P1	for process to compare ratios, eg $a : b = 2 : 6$ or $b : c = 3 : 2.5$	Could use 3 or any common multiple of 3 and 6
			A1	for $2 : 6 : 5$ oe	
	(ii)	$\frac{2}{13}$	M1	for process to find fraction, eg $\frac{[2]}{[2+6+5]}$ or for $\frac{a}{a+b+c}$	
			A1	for $\frac{2}{13}$ oe or ft (a)(i)	
	(b)	$1 : 10$	P1	for process to express all numbers in terms of one number, eg $p = 5 \times 2m (= 10m)$ or $m = \frac{n}{2}$ or for $2m = \frac{p}{5}$ or for assigning values in the ratio given, eg $m = 1, n = 2, p = 10$ or for $n : m : p = 2 : 1 : 10$ oe or $10 : 1$ oe	
			A1	for $1 : 10$ oe	

Q17 Nov 2024

(c)	$\frac{5}{9}$	B1	for $\frac{5}{9}$ or equivalent fraction	
(d)	$1.25 : 1$	B1	for $1.25 : 1$ or $\frac{5}{4} : 1$ or $1\frac{1}{4} : 1$	Accept $n = 1.25$ Do not accept 1.25 alone or $n : 1.25$