

Percentages

November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
5	120	B1	cao	

November 2024 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
9	118	P1 P1 P1 P1 A1	<p>for a correct first step, eg $200 \times 2 \div 5 (= 80)$ or $200 \times 3 \div 5 (= 120)$ or $1 - \frac{2}{5} (= \frac{3}{5})$ oe eg $100 - 40 (= 60(\%))$</p> <p>P1 for a process to find the number of child vegetarians or number of child non-vegetarians, eg $"80" \times 0.35 (= 28)$ or $"80" \times (1 - 0.35) (= 52)$</p> <p>P1 for a process to find the number of adult vegetarians or number of adult non-vegetarians, eg $(200 - "80") \times 0.45 (= 54)$ or $(200 - "80") \times (1 - 0.45) (= 66)$</p> <p>P1 for a complete process to find the total number of non-vegetarians, eg $200 - "28" - "54"$ or $("80" - "28") + (200 - "80" - "54")$ oe eg $"52" + ("120" - "54")$ or $"80" \times (1 - 0.35) + (200 - "80") \times (1 - 0.45)$</p> <p>A1 cao</p>	<p>Answer of $\frac{118}{200}$ is P4A0</p>

November 2022 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
11	130	P1 P1 P1 A1	process to find the total number of children, eg $214 - 14 (= 200)$ process to find the number of children wearing a hat, eg $"200" \times 35 \div 100 (= 70)$ or process to find the multiplier for the percentage of children not wearing a hat, eg $(100 - 35) \div 100 (= 0.65)$ for full process to find the number of children not wearing a hat, eg $"200" - "70"$ or $"200" \times "0.65"$ or $214 - "70" - 14$ cao	

June 2023 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
14 (a)	27	B1	cao	Award 0 marks for a correct answer with no supportive working.
(b)	$\frac{2}{7}$	B1	or any equivalent fraction	
(c)	No (supported)	P1	for method to find the number of children on Friday eg 0.7×500 oe (= 350)	
		P1	for method to find the number of children on Saturday eg $720 \div 8 \times 5$ oe (= 450)	
		C1	for No with correct figures, eg No and 350 and 450 or No and 100 more on Saturday	

June 2024 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
15	15% of 88 from correct figures	P1 P1 C1	<p>for first step towards finding comparable figures, eg $\frac{15}{100} \times 88 (= 13.2)$ oe or $\frac{20}{100} \times 62 (= 12.4)$ oe OR $15 \times 88 (= 1320)$ or $20 \times 62 (= 1240)$</p> <p>for process to find two comparable figures, eg $\frac{15}{100} \times 88 (= 13.2)$ oe and $\frac{20}{100} \times 62 (= 12.4)$ oe OR $15 \times 88 (= 1320)$ and $20 \times 62 (= 1240)$</p> <p>15% of 88 from 13.2 oe and 12.4 oe OR 15% of 88 from 1320 and 1240</p>	<p>Must have correct figures. Ignore an incorrect difference after a correct decision from correct figures unless it contradicts.</p>

November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
15	60.48	P1 P1 A1	for a beginning process, eg $72 \div 100 \times 120 (= 86.4)$ OR $72 \div 100 \times 30 \div 100 (= 0.216)$ for process to use both percentages, eg $[86.4] - ([86.4] \times 30 \div 100)$ or $[86.4] \times ((100 - 30) \div 100)$ or $[86.4] \times 30 \div 100 (= 25.92)$ OR $72 \div 100 \times ((100 - 30) \div 100) (= 0.504)$ OR $120 \times "0.216" (= 25.92)$ cao	[86.4] must be a value less than 120

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Question	Answer	Mark	Mark scheme	Additional guidance
16	Explanation (supported)	M1 C1	for method to find comparable figures eg $60 \times 70 \div 100$ or $45 \div 60 \times 100$ or 0.7 or 0.75 for conclusion eg shows 42 (marks) or 75 (%) or 0.7 and 0.75	Figures need not be supported by words but must not be contradicted.

June 2020 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
16	58	<p>P1</p> <p>P1</p> <p>P1</p> <p>A1</p>	<p>for a correct process to find the pass mark for the exam or either paper eg $(60 + 90) \div 3 \times 2$ oe (= 100) or $60 \div 3 \times 2$ oe (= 40) or $90 \div 3 \times 2$ oe</p> <p>for a process to find 70% of 60 eg $\frac{70}{100} \times 60$ oe (= 42)</p> <p>for a complete set of processes to find the required mark “100” – “42”(=58) or “40”+ “60” – “42” (=58)</p> <p>cao</p> <p>SC B2 for an answer of 48</p>	<p>It is possible to award P0P1 on this question Accept 66% or better used for $\frac{2}{3}$</p> <p>May be seen in parts</p>

June 2023 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
17	27.5	P1	for process to find number of yellow and green counters, eg $200 - 38 - 52 (= 110)$ OR for process to express red and blue counters as a percentage of 200, eg $\frac{38 + 52}{200} \times 100$ oe (= 45)	
		P1	for process to find number of yellow counters and/or the number of green counters eg $"110" \div 2 (= 55)$ OR for process to express the sum of the yellow and green counters as a percentage of 200, eg $\frac{"110"}{200} \times 100 (= 55)$ or $100 - "45" (= 55)$	
		P1	for a complete process to express the number of yellow counters as a percentage, eg $\frac{"55"}{200} \times 100$ or $"55" \div 2$	
		A1	for 27.5 oe	

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Question	Answer	Mark	Mark scheme	Additional guidance
18	12	P1 P1 A1	<p>for a beginning process, eg $1800 - (1800 \times 0.56)$ oe or $1800 \times (1 - 0.56)$ (= 792) or $1800 \div 100 \times 56 \div 66$ (= 15.272...) or $1800 \div 66$ (=27.272...) or $[44\%] \div 66$</p> <p>for a complete process, eg “792” $\div 66$ or “27.272...” $\times (1 - 0.56)$ oe or “27.272...” – “15.272...”</p> <p>cao</p>	[44%] is the value they clearly believe to be 44% of 1800

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Question	Answer	Mark	Mark scheme	Additional guidance
18	60	P1 P1 P1 P1 A1 Alternative P1 P1 P1 P1 A1	for $240 \div (5 + 3 + 2) (= 24)$ for complete process to find the number of cans of each drink eg $5 \times "24" (= 120)$ and $3 \times "24" (= 72)$ and $2 \times "24" (= 48)$ for process to find the number of cans removed eg $"72" \div 2 (= 36)$ and $"48" \div 12 (= 4)$ for process to find percentage eg $\frac{"120"}{240 - ("36" + "4")} \times 100$ or $\frac{"120"}{"120" + ("72" - "36") + ("48" - "4")} \times 100$ cao Alternative for process to find proportion of lemonade and orange cans removed, eg $3 \times \frac{1}{2} (= 1\frac{1}{2})$ and $2 \times \frac{1}{12} (= \frac{1}{6})$ for process to find proportion of lemonade and orange cans remaining, eg $3 - "1\frac{1}{2}" + 2 - "\frac{1}{6}" (= 3\frac{1}{3})$ for $5 + "3\frac{1}{3}" (= 8\frac{1}{3})$ for process to find percentage eg $(5 \div "8\frac{1}{3}") \times 100$ cao	

June 2022 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
19	42	P1	for process to find number of red counters, eg. $400 \div 8 \times 3 (= 150)$ or process to convert both to percentages: $3/8$ as 37.5 and $82/400$ as 20.5 or process to convert both to fractions with common denominator: eg $3/8$ as $75/200$ and $82/400$ as $41/200$ oe	NB could use other decimals eg 0.375, 0.205 or % or fractions
		P1	for process to find number of green counters, eg $400 - "150" - 82 (=168)$ or process to find the percentage of red and yellow counters eg $"37.5" + "20.5" (=58)$ or $("150" + 82) \div 400 \times 100 (=58)$	
		P1	for complete process to find the percentage of counters that are green, eg $"168" \div 400 \times 100$ or $100 - (37.5 + 20.5)$ or $100 - "58"$	
		A1	cao	

June 2020 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
19 (a)	140	M1	for complete method eg $56 \div 40 \times 100$	May be seen in different ways, eg 2.5×56
		A1	cao	
(b)	32	M1	for method to find percentage, eg $\frac{18}{56} \times 100 (=32.14\dots)$	
		A1	for an answer in the range 32 to 32.2	

June 2023 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
21 (a)	11533	P1	for working with 68%, eg 800×0.68 (= 544 people) oe or “16960” \times 0.68 oe	Percentage calculation could be done at any stage If a correct answer within the range is shown in working but incorrectly rounded award full marks. If figures are given as part of the answer they must be correct, but can allow ft.
		P1	for a correct process, other than that of finding a %, eg “544” \times 2 (= 1088) or 10.6×2 (= 21.2) or 800×2 (= 1600) or “544” \times 10.6 (= 5766.4) or 800×10.6 (= 8480)	
		P1	for full process to find amount of coffee required eg “1088” \times 10.6 or “544” \times “21.2” or “5766.4” \times 2 (= 11532.8) or for an answer of 11532	
		A1	for answer in the range 11532.5 to 11533	
(b)	Statement	C1	for a correct statement Acceptable examples the amount will be more; he will need more coffee it is an underestimate my answer in part (a) means there would not be enough for everyone he will need 12211(.2); needs 678(.4) more Not acceptable examples amount will decrease, amount of coffee will change	