

Percentage Change

November 2024 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
17 (a)	265.05	M1	for $285 \times (7 \div 100) (= 19.95)$ oe or $(100 - 7) \div 100 (= 0.93)$	Accept £265.05p
		M1	for $285 - "19.95"$ or $285 \times "0.93"$ oe	
		A1	cao	
(b)	8000	P1	for start of process, eg $2100 - 1700 (= 400)$	
		P1	for using $"400" = 5\%$, eg $(1\% \Rightarrow) "400" \div 5 (= 80)$ or $(10\% \Rightarrow) "400" \times 2 (= 800)$ or $(50\% \Rightarrow) "400" \times 10 (= 4000)$ or $"400" \div 5 \times 100$	
		A1	cao	

June 2020 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
17	Conclusion (supported)	P1	for process to find 1/10 of 500 eg. $500 \div 10 (= 50)$ or $1 - 0.1 (= 0.9)$ oe	
		P1	(dep) for process to reduce 500 by 1/10 eg. $500 - "50"$ or $500 \times "0.9" (= 450)$	
		P1	for process to calculate 20% of [Monday sale price] eg. $"450" \times \frac{20}{100} (= 90)$ oe or for use of $100 - 20 (= 80)$ or $1 - 0.2 (= 0.8)$ in relation to [Monday sale price]	
		P1	(dep on P3) for a fully correct process to find the cost of the TV on Tuesday eg. $"450" - "90" (= 360)$ or $"450" \times "0.8" (= 360)$	
		C1	for conclusion (Yes) supported by correct figures.	eg Yes, the TV will cost 360 Yes, he will have 40 over left

June 2022 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
19	288	M1 M1 A1	for a method to find 20% eg $240 \times 20 \div 100 (= 48)$ or shows a multiplier of 1.2 oe or 120% for a complete method eg $240 + "48"$ or 240×1.2 oe or $240 \times 120 \div 100$ cao	

June 2022 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance	
19	1.19	P1	process to find number of small bags that can be filled, eg $[3\text{kg}] \div 150 (= 20)$ oe	[3kg] must be 3 and zeros only eg 300 Build up methods are allowed to imply process	
		P1	for starting a process to work with percentage for cost of box, eg $17.60 \times \frac{35}{100} (= 6.16)$ or $100 + 35 (= 135)$	works with starting cost per small bag, $17.60 \div "20"$	Cost per small bag given as £0.88 will imply P1P1
		P1	for full process to work with percentage increase, eg $17.60 \times \frac{135}{100} (= 23.76)$	begins process to work with percentage for a small bag, eg $"0.88" \times \frac{35}{100} (= 0.308)$	
		P1	full process to find selling price for small bag, eg $"23.76" \div "20" (= 1.188)$	full process to find selling price for small bag, $"0.88" \times \frac{135}{100} (= 1.188)$ oe	
		A1	cao		

November 2021 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
19	30	M1 M1 A1	for $80 - 56 (= 24)$ or for $\frac{56}{80} \times 100 (=70)$ or (loss of) $10\% = 80 \div 10 (= 8)$ for a complete method, eg “24” $\div 80 \times 100$ or $100 - “70”$ or $(80 - 56) \div “8” \times 10$ cao	

November 2024 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance	
21	45.6	P1	for a process to start to work with the ratio, eg $240 \div (3 + 5) (= 30)$ or pens = $3n$ and pencils = $5n$ where n is a positive integer	Can work in £ or pence but must be consistent, 90 or 150 imply P1 This mark can be awarded at any stage [pens] could be $"30" \times 3$ or their number of pens [pencils] could be $"30" \times 5$ or their number of pencils [pens] , [pencils] $\neq 1$	
		P1	for a complete process to find the number of pens and pencils, eg $"30" \times 3 (= 90)$ and $"30" \times 5 (= 150)$ OR for process to find one cost or amount to sell for one item eg [pens] $\times 9 (= 810)$ or [pens] $\times 11 (= 990)$ or [pencils] $\times 6 (= 900)$ or [pencils] $\times 10 (= 1500)$ OR for process to find the profit for one pen or one pencil eg $11 - 9 (= 2)$ or $10 - 6 (= 4)$		
		P1	for a process to find the total cost to buy or the total amount to sell for both, eg [pens] $\times 9 +$ [pencils] $\times 6 (= 1710)$ or [pens] $\times 11 +$ [pencils] $\times 10 (= 2490)$ OR process to find the profit for one item eg [pens] $\times 11 -$ [pens] $\times 9 (= 180)$ or [pens] $\times (11 - 9) (= 180)$ or [pencils] $\times 10 -$ [pencils] $\times 6 (= 600)$ or [pencils] $\times (10 - 6) (= 600)$		180 or 600 or 780 implies P3 [pens] could be $"30" \times 3$ or their number of pens [pencils] could be $"30" \times 5$ or their number of pencils [pens] , [pencils] $\neq 1$
		P1	for a complete process to find the profit as a percentage or a decimal, eg $\frac{[2490] - [1710]}{[1710]} \times 100$ or $\frac{[2490] - [1710]}{[1710]} (= 0.456\dots)$ or for a process to find the amount to sell as a percentage of the cost eg $\frac{[2490]}{[1710]} \times 100 (= 145.6\dots)$		[2490] is their amount to sell for both pens and pencils [1710] is their cost of pens and pencils [2490] - [1710] may be [180] + [600]
		A1	answer in the range 45.6 to 45.62	If an answer is given in the range in working and then rounded incorrectly award full marks. A correct answer with no supportive working gets 0 marks	

November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
23	35	P1	for process to work out income and outgoings, eg $7.5(0) \times 54 (= 405)$ and $100 + 120 + 80 (= 300)$	
		P1	for process to find the profit, eg “405” – “300” (= 105) OR “405” \div “300” (= 1.35) or “405” \div “300” \times 100 (= 135)	
		P1	for a full process to find percentage profit, eg (“105” \div “300”) \times 100 or (“1.35” – 1) \times 100 or “135” – 100	
		A1	cao	

November 2021 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
23	Rahim (supported)	P1	for start to the process to find 20% for Tamara, eg 220000×0.2 oe (= 44000) or 30% for Rahim, eg 160000×0.3 oe (= 48000) OR for $1 - 0.2$ (= 0.8) or $100 - 20$ (= 80) or $1 + 0.3$ (= 1.3) or $100 + 30$ (= 130)	Build up processes are acceptable but must be complete and correct
		P1	for a complete process to find at least one new value, eg $220000 - "44000"$ (= 176 000) or $160000 + "48000"$ (= 208000) OR $220000 \times "0.8"$ (=176000) or $160000 \times "1.3"$ (=208000)	
		A1	for one correct value, 176 000 or 208 000	
		C1	for correct conclusion supported by correct figures eg Rahim, 176 000 and 208 000	
				Award 0 marks for a correct answer with no supportive working.

November 2024 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
25	Yes (supported)	P1	for start to a process to find a percentage increase, eg $85 - 76 (=9)$ or $66 - 65 (=1)$ or $\frac{85}{76} (=1.118\dots)$ or $\frac{66}{65} (=1.015\dots)$	Accept use of rounded and truncated figures for all marks. May work in decimals or equivalent proportions throughout
		P1	for process to find a % increase, eg $\frac{9}{76} \times 100 (= 11.84\dots)$ or $\frac{1}{65} \times 100 (= 1.53\dots)$ or $\frac{85}{76} \times 100 - 100 (= 11.84\dots)$ oe or $\frac{66}{65} \times 100 - 100 (= 1.53\dots)$ oe	
		P1	for processes to find both % increases, eg $\frac{9}{76} \times 100 (= 11.84\dots)$ and $\frac{1}{65} \times 100 (= 1.53\dots)$ or $\frac{85}{76} \times 100 - 100 (= 11.84\dots)$ oe and $\frac{66}{65} \times 100 - 100 (= 1.53\dots)$ oe	
]		C1	for Yes supported by correct figures, eg $11(.842\dots) \div 1.5(38\dots) = 7.3$ to 8 or $11(.842\dots)$ and $1.5(38\dots) \times 7 = 10(.766\dots)$ or $11(.842\dots) \div 7 = 1.57$ to 1.7 and $1.5(3\dots)$ or $0.11(842\dots)$ and $0.10(766\dots)$	