

Percentages Past Paper Answers GCSE Edexcel – Non Calculator

1.

Answer	Mark	Mark scheme	Additional guidance
No (supported)	P1	for start to process, eg. $2100 \times \frac{40}{100}$ (= 840) or $100 - 40$ (= 60)	May compare bonus shares of a single salesman or total bonus share for all 7 salesmen.
	P1	for process to find the 7 salesmen's share of bonus, eg $2100 - "840"$ (= 1260) or $2100 \times \frac{60}{100}$ (= 1260)	
	P1	for process to find bonus amount each salesman gets eg " $1260 \div 7$ " (= 180) OR process to find the total bonus for all salesmen if shared equally, eg $\frac{2100}{10} \times 7$ (= 1470)	
	P1	for process to compare what a single salesman gets under each scheme, eg " $180 \times \frac{25}{100}$ " (= 45) and " $\frac{2100}{10} - "180"$ " (= 30) or " $180 \times \frac{25}{100}$ " (= 45) and " $180 + "45"$ " (= 225) oe and $\frac{2100}{10}$ (= 210) or " $(\frac{2100}{10} - "180") \div "180" \times 100$ " (= 16.6...) OR process to compare what all salesmen gets under each scheme, eg " $1260 \times \frac{25}{100}$ " (= 315) and " $1470 - "1260"$ " (= 210) or " $1260 \times \frac{25}{100}$ " (= 315) and " $1260 + "315"$ " (= 1575) oe and " 1470 " or " $(1470 - "1260") \div "1260" \times 100$ " (= 16.6...)	
	A1	'No' supported by correct figures, eg 45 and 30, 225 and 210, 315 and 210 or 1575 and 1470 or 16.6...)(% and 25%)	Do not award unless correct figures have been shown to support a statement made that the salesman was not correct.

2.

Answer	Mark	Mark scheme	Additional guidance
20	P1	for start of process, eg $\frac{125}{100}$ oe or $\frac{100}{125}$ oe or $\frac{25}{125}$	Values of amount of cereal and cost may be used, eg. 100g of cereal costing £10 An acceptable start of a process would then be: 125g of cereal costing £10 using Jack's idea
	P1	for a suitable process to develop a percentage, either 80% or 20% eg. $\frac{100}{125} = \frac{x}{100}$ or $\frac{125-100}{125} = \frac{x}{100}$ or $\frac{p}{1.25m} = \frac{xp}{m}$ or $\frac{0.25p}{1.25m} = \frac{xp}{m}$	
	A1	cao	

3.

500	M1	recognition of 1.2 or 120% oe eg $600 \div 1.2$ oe or $x \times 1.2 = 600$ oe or $120\%=600$
	A1	cao

4.

$\frac{90}{2} \times 3 = 135$ $\frac{84}{60} \times 100 = 140$	Combination with reason	P1 Links either $\frac{2}{3}$ with 90 and 60% with 84 P1 Process to find original price of microwave oven eg $\frac{90}{2} \times 3 (=135)$ P1 Process to find original price of combination oven eg $\frac{84}{60} \times 100 (=140)$ A1 Correct original prices £135 and £140 with interpretation of results to conclude that combination oven had greater normal price.
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5.

No with reason	C1 Starts to formulate reason eg. No with partial explanation or 0.8×0.7 or starts to use figures
	C1 No with full explanation eg. $0.8 \times 0.7 = 0.56$ so only 44% reduction

6.

Answer	Mark	Notes
69	4	M1 for finding 15% of £720 (=108) M1 (dep) for finding total of £720 plus interest (or 115% etc) (=828) M1 (dep on previous M1) dividing by 12 A1 cao OR M1 finding $720 \div 12 (=60)$ M1 (dep) finding 15% of "60" (=9) M1 (dep on previous M1) for adding, e.g. $60 + 9$ A1 cao

7.

Maths with correct comparative figure(s)	2	M1 for correct method to find figure(s) to compare, eg $\frac{32}{80} \times 100 (=40)$ oe or 0.38×80 oe (=30.4) C1 for maths with 40% or 30.4 or $\frac{40}{100}$ and $\frac{38}{100}$ oe
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8.

900	4	<p>M1 for $0.2 \times 7000 (=1400)$ or $1.2 \times 7000 (=8400)$ oe M1 for $7000 + "1400" - 3000 (=5400)$ oe M1 for $"5400" \div 6$ A1 cao</p>
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9.

25.60	4	<p>M1 for a correct method to find $\frac{1}{3}$ of 24 (=8) or $\frac{2}{3}$ of 24 (=16) M1 for a correct method to find 60% (= 7.2) or 40% (= 4.8) of 12 or 60% (=14.4) or 40% (= 9.6) of 24 M1 (dep on at least M1) for a method to find the sum of their discounted adult ticket + 2 × their discounted child ticket A1 25.6(0)</p>
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10.

24	4	<p>M1 for $0.15 \times 240 (= 36)$ oe M1 for $\frac{3}{4} \times 240 (= 180)$ oe M1 (dep on both prev M1) for $240 - "180" - "36"$ A1 cao</p> <p>OR</p> <p>M1 for $15(\%) + 75(\%) (= 90(\%))$ M1 for $100(\%) - "90(\%)" (= 10(\%))$ M1 (dep on both prev M1) for $"\frac{10}{100}" \times 240$ oe A1 cao</p> <p>OR</p> <p>M1 for $0.15 + 0.75(= 0.9)$ oe M1 for $"0.9" \times 240(= 216)$ oe M1 (dep on both prev M1) for $240 - "216"$ A1 cao</p> <p>OR</p> <p>M1 for $0.15 + 0.75(= 0.9)$ oe M1 for $1 - "0.9"(= 0.1)$ oe M1 (dep on both prev M1) for $"0.1" \times 240$ oe A1 cao</p>
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11.

Answer	Mark	Notes
730	5	<p>M1 for $\frac{5}{100} \times 200 (= 10)$ oe</p> <p>M1 for $\frac{10}{100} \times 350 (= 35)$ oe</p> <p>M1 for $6 \times '10'$ or $4 \times '35'$</p> <p>M1 (dep on M1 earned for a correct method for a percentage calculation) for "60" + "140" + 530</p> <p>A1 cao</p> <p>Or</p> <p>M1 for $6 \times 200 (= 1200)$ or $4 \times 350 (= 1400)$</p> <p>M1 for $\frac{5}{100} \times "1200" (= 60)$ oe</p> <p>M1 for $\frac{10}{100} \times "1400" (= 140)$ oe</p> <p>M1 (dep on M1 earned for a correct method for a percentage calculation) for "60" + "140" + 530</p> <p>A1 cao</p>

12.

Working	Answer	Mark	Notes
$2.25 \times 60 \div 100 = 1.35$ $1.35 + 0.80 = 2.15$ $1.5 \times 60 \div 100 = 0.90$ $0.90 + 1.90 = 2.80$	Railtickets with correct calculations	4	<p>NB. All work may be done in pence throughout</p> <p>M1 for correct method to find credit card charge for one company eg. $0.0225 \times 60 (= 1.35)$ oe or $0.015 \times 60 (= 0.9)$ oe</p> <p>M1 (dep) for correct method to find total additional charge or total price for one company eg. $0.0225 \times 60 + 0.80$ or $0.015 \times 60 + 1.90$ or 2.15 or $2.8(0)$ or 62.15 or $62.8(0)$</p> <p>A1 for 2.15 and 2.8(0) or 62.15 and 62.8(0)</p> <p>C1 (dep on M1) for a statement deducing the cheapest company, but figures used for the comparison must also be stated somewhere, and a clear association with the name of each company</p> <p>OR</p> <p>M1 for correct method to find percentage of (60+booking fee) eg. $0.0225 \times 60.8 (= 1.368)$ oe or $0.015 \times 61.9 (= 0.9285)$</p> <p>M1 (dep) for correct method to find total cost or total additional cost eg. $'1.368' + 60.8 (= 62.168)$ or $'1.368' + 0.8 (= 2.168)$ or $'0.9285' + 61.9 (= 62.8285)$ or $'0.9285' + 1.9 (= 2.8285)$</p> <p>A1 for 62.168 or 62.17 AND 62.8285 or 62.83 OR 2.168 or 2.17 AND 2.8285 or 2.83</p> <p>C1 (dep on M1) for a statement deducing the cheapest company, but figures used for the comparison must also be stated somewhere, and a clear association with the name of each company</p>