PERCENTAGES

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Higher Tier

1.

3	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" ÷ 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" × $\frac{25}{100}$ (= 45) and "$\frac{2100}{10}$" − "180" (= 30) **or** "180" × $\frac{25}{100}$ (= 45) and "180" + "45" (= 225) oe and $\frac{2100}{10}$ (= 210) **or** ("$\frac{2100}{10}$" − "180") ÷ "180" × 100 (= 16.6...) **OR** process to compare what all salesmen gets under each scheme, eg "1260" × $\frac{25}{100}$ (= 315) and "1470" − "1260" (= 210) **or** "1260" × $\frac{25}{100}$ (= 315) and "1260" + "315" (= 1575) oe and "1470" **or** ("1470" − "1260") ÷ "1260" × 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.

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Higher Tier

2.

11	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	

Pearson Edexcel - Thursday 8 June 2017 - Paper 2 (Calculator) Higher Tier

3.

2		Yes	P1	for process to work out the total number of children, e.g. $117 \times 4 \ (= 468)$
		(supported)	P1	(dep P1) for process to work out total number of adults or the total number of people, e.g. "468" $\times$ 5 $\div$ 2 (= 1170) or "468" $\times$ 7$\div$2 (= 1638)
			A1	for 1170 or 1638
			P1	for process to work out the percentage of theatre full, e.g. $\frac{"468"+"1170"}{2600} \times 100 \ (= 63)$ or for a process to work out 60% of 2600 (= 1560)
			C1	for a correct conclusion supported by correct figures e.g. 63% or 1560 **and** 1638
				OR
			P1	for a process to work out 60% of 2600, eg. $\frac{60}{100} \times 2600 \ (= 1560)$
			P1	(dep P1) for process to work out this total number of children, e.g. "1560" $\times$ 2 $\div$ 7 (= 445(.7…))
			A1	for 445(.7…)
			P1	for process to work out children in the circle, eg. "445(.7…)" $\div$ 4 (= 111 to 112)
			C1	for a correct conclusion supported by correct figures e.g. 111 to 112 [Where appropriate accept rounded or truncated values]

2 cont.				**OR**
			P1	for a process to find the maximum number of children, eg. 2600 $\times$ 2 $\div$ 7 (= 742(.8…))
			P1	for process to work out the total number of children, e.g. $117 \times 4 \ (= 468)$
			A1	for 468 and 742(.8…)
			P1	for $\frac{"468"}{"742(.8..)"} \times 100 \ (= 63)$ or process to work out 60% of "742(.8…)" (= 445(.7…))
			C1	for a correct conclusion supported by correct figures e.g. 63% or 468 and 445(.7…) [Where appropriate accept rounded or truncated values]

Pearson Edexcel - Specimen Papers Set 2 - Paper 2 (Calculator) Higher Tier

4.

2	(a)		Trend described	C1	for "percentage of people who use the shop decreases" oe
	(bi)		13 - 17	P1	for process to draw trend line on graph
				A1	for 13 - 17
	(bii)		No + reason	C1	for comment, eg "no, because 2020 is beyond the time period covered by the given data"

Pearson Edexcel - Specimen Papers Set 1 - Paper 2 (Calculator) Higher Tier

5.

8		66.9	P1	for process to find the area of one shape, eg. 19×16 (= 304) or $\pi \times 8^2$ (= 201.06…)
			P1	for process to find the shaded area, eg. "304" − "201.06" ÷2 (= 203.46…)
			P1	for a complete process to find required percentage, eg. $\frac{"203.46"}{304} \times 100$
			A1	for answer in range 66 to 68

Pearson Edexcel - Sample Paper 1 - (Non-Calculator) Higher Tier

6.

5		28		P1	Process to start to solve problem eg. $\frac{3}{5} \times 40$ **or** divide any number in the ratio 3:2
				P1	Second step in process to solve problem eg. $\frac{2}{5} \times 10$ or find number of males/females under 25 for candidate's chosen number
				P1	for complete process
				A1	

Pearson Edexcel - Thursday 26 May 2016 - Paper 1 (Non-Calculator) Higher Tier

7.

13		36	3	M1 for correct method to work out 20% of 30% (=6%)
				M1 for 30% + "6%"
				A1cao
				OR
				M1 for complete and correct method to find amount of money spent on rent eg 800 × 0.3 (=240) oe
				M1 for correct method to find rent next month (288) eg "240" × 1.2 (=288) oe or $\frac{"288"}{800} \times 100$ oe or 30 × 1.2
				A1 cao

Pearson Edexcel - Friday 6 November 2015 - Paper 2 (Calculator) Higher Tier

8.

5	0.65×80 = 52 $\frac{5}{8} \times 80 = 50$ 52 - 50	2	4	M1 for method to calculate the time Celina sings
				M1 for method to calculate the time Zoe sings
	Or			M1(dep on at least M1) for finding the difference between two times
	$\frac{5}{8} = 0.625$			A1 cao
	0.65 − 0.625=0.025			Or
	0.025×80			M1 for a conversion to a common representation
				M1 (dep on M1) for finding the difference in their chosen representation
				M1 for using their proportional difference multiplied by 80
				A1 cao

Pearson Edexcel - Wednesday 5 November 2014 - Paper 1 (Non-Calculator) Higher Tier

9.

*2		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

Pearson Edexcel - Wednesday 6 November 2013 - Paper 1 (Non-Calculator) Higher Tier

10.

11			164	5	M1 200 ÷ (3+2) (= 40) or an equivalent ratio seen M1 (dep) 3 ×'40' (= 120) or 2 ×'40' (= 80) or 120: 80 or 80:120 M1 a complete method to find 70% of their total number of large letters e.g. 0.7 × '80' (=56) M1 multiplies their three totals by the correct unit price and adds, e.g. 60(p) × '120' + (£)1 × '56' + (£)1.50 × '24' A1 164

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

11.

10			Merit	3	M1 for $\frac{62}{80} \times 100$ (=77.5) A1 for 77.5% **or** 78% B1 ft (dep on M1) for 'Merit' **OR** M1 for calculating a percentage between 70 and 85% of 80 eg 0.7×80 (=56) **or** 0.84 × 80 (=67.2) **or** 0.85 × 80 (=68) A1 for 56 **and** 67(.2) or 68 or for two appropriate values which can be compared with 62 B1 ft (dep on M1) for 'Merit'

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

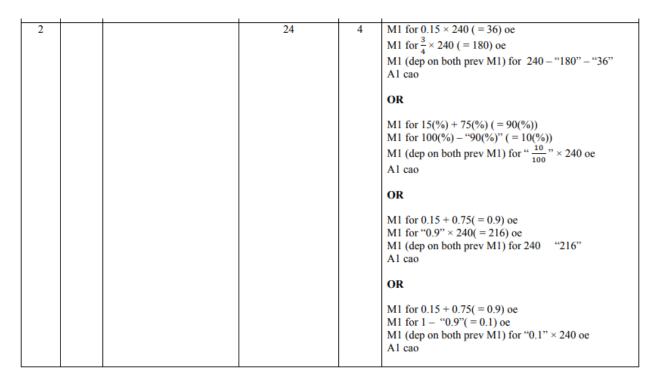**12.**

20			116	3	M1 for 80% or 0.8 seen oe or $\frac{464}{0.8}$ (=580) M1 for $\frac{464}{0.8} - 464$ A1 cao **OR** M1 for 80% or 0.8 seen oe M1 for 464 ÷ 4 **or** 464 ÷ (80÷20) A1 cao

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

13.

27	12×20 + 10.8×10 + 7×15 + 5×15 + 1.8×30 + 0.6×30 =240+108+105+75 +54+18 =528+72=600	12%	3	M1 for attempt to work out total area (eg =600) or area greater than 60 (eg =72) by using fd or counting squares M1 (dep) for $\frac{'72'}{'600'} \times 100$ oe (=12) A1 cao (must have % otherwise 2 marks)

Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

14.

2			24	4	M1 for 0.15×240 ($= 36$) oe
					M1 for $\frac{3}{4} \times 240$ ($= 180$) oe
					M1 (dep on both prev M1) for $240 - \text{"180"} - \text{"36"}$
					A1 cao
					OR
					M1 for $15(\%) + 75(\%)$ ($= 90(\%)$)
					M1 for $100(\%) - \text{"90(\%)"}$ ($= 10(\%)$)
					M1 (dep on both prev M1) for $\text{"}\frac{10}{100}\text{"} \times 240$ oe
					A1 cao
					OR
					M1 for $0.15 + 0.75$ ($= 0.9$) oe
					M1 for $\text{"0.9"} \times 240$ ($= 216$) oe
					M1 (dep on both prev M1) for $240 \quad \text{"216"}$
					A1 cao
					OR
					M1 for $0.15 + 0.75$ ($= 0.9$) oe
					M1 for $1 - \text{"0.9"}$ ($= 0.1$) oe
					M1 (dep on both prev M1) for $\text{"0.1"} \times 240$ oe
					A1 cao

Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

15.

16			£500	3	M1 for $70\% = 350$ or $\frac{350}{70}$
					M1 for $\frac{350}{70} \times 100$ oe
					A1 cao

Pearson Edexcel - Monday 11 June 2012 - Paper 1 (Non-Calculator) Higher Tier

16.

10		$2.25 \times 60 \div 100 = 1.35$ $1.35 + 0.80 = 2.15$ $1.5 \times 60 \div 100 = 0.90$ $0.90 + 1.90 = 2.80$	Railtickets with correct calculations	4	NB. All work may be done in pence throughout 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 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) A1 for 2.15 **and** 2.8(0) **or** 62.15 **and** 62.8(0) 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 **OR** M1 for correct method to find percentage of (60+booking fee) eg. $0.0225 \times 60.8 (=1.368)$ oe **or** $0.015 \times 61.9 (=0.9285)$ 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) 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 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
		OR			**OR**
		$2.25 - 1.5 = 0.75$ $0.075 \times 60 \div 100 = 0.45$ $0.80 + 0.45 = 1.25$ $1.25 < 1.90$			M1 for correct method to find difference in cost of credit card charge eg. $(2.25 - 1.5) \times 60 \div 100$ oe **or** 0.45 seen M1 (dep) for using difference with booking fee or finding difference between booking fees eg. 0.80 + "0.45"(=1.25) **or** 1.90 − "0.45" (=1.45) **or** 1.90 − 0.8 (=1.1(0)) A1 1.25 **and** 1.9(0) **or** 0.45 **and** 1.1(0) 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 QWC: Decision and justification should be clear with working clearly presented and attributable

Pearson Edexcel - Wednesday 9 November 2011 - Paper 3 (Non-Calculator) Higher Tier

17.

| 9 | | $22.5\% - 17.5\% = 5\%$
 $180 \times \dfrac{5}{100}$

 OR

 $180 \times \dfrac{22\frac{1}{2}}{100} = 40.50$
 $180 \times \dfrac{17\frac{1}{2}}{100} = 31.50$
 $40.50 - 31.50$

 OR

 $1.225 \times 180 = 220.5$
 $1.175 \times 180 = 211.5$
 $220.5 - 211.5$ | 9 | 3 | M1 $22.5 - 17.5$
 M1 $180 \times$ ' $\dfrac{5}{100}$ ' oe
 A1 cao

 OR

 M1 $180 \times \dfrac{22\frac{1}{2}}{100}$ oe or $180 \times \dfrac{17\frac{1}{2}}{100}$ oe
 M1 (dep) '40.50' − '31.50'
 A1 cao

 OR

 M1 1.225×180 or 1.175×180
 M1 (dep) '220.5' − '211.5'
 A1 cao
 [SC: Award M2 A0 for an answer of 9 with 1 arithmetic error] |

Pearson Edexcel - Friday 12 November 2010 - Paper 4 (Calculator) Higher Tier

18.

7	$8 \div 20 \times 100$	40	2	M1 for $8 \div 20 \times 100$ or $\frac{8}{20} = \frac{8 \times 5}{20 \times 5}$ oe or $\frac{40}{100}$ A1 cao

Pearson Edexcel - Friday 11 June 2010 - Paper 4 (Calculator) Higher Tier

19.

9	$\frac{84}{350} \times 100$	24	2	M1 for $\frac{84}{350} \times 100$ A1 cao

OCR GSCE – Monday 9 November 2020 – Paper 6 (Calculator) Higher Tier

20.

10			22	3	**M2** for 1.403 ÷ 1.15 oe soi by 1.22 or **B1** for 1.15 soi Alternative method : If starting from (1 + k/100) × 1.15 = 1.403 **M2** for reaching 1.15k/100 = 0.253 or **B1** for the 1.15	Condone answer 22%

OCR GSCE – Monday 11 November 2019 – Paper 6 (Calculator) Higher Tier

21.

2			31218	5	**M4** for $54868 - \frac{54868}{2.32}$ oe or **M3** for $\frac{54868}{2.32}$ soi by 23650 or 236.5 or **M2** for 2.32 or 232[%] soi or **M1** for 1.32 or 132[%] soi If **M1** only scored then also allow an **SC1** for $\frac{54868}{1.32}$ soi by 41566 to 41567	May be seen as $54868 \times \frac{132}{232}$ or 236.5 × 132 Examples of implied: 2.32 implied by [A =] 0.32B + 2B oe but not by 32[%] × B + 2B oe 1.32 implied by 0.32 + 1 but not by 32[%] + 1 nor 0.32 + 100[%]

OCR GSCE – Thursday 6 June 2019 – Paper 5 (Non-Calculator) Higher Tier

22.

| 7 | | 173.4[0] | 6 | **M1** for evidence at some stage of intention to find the total ticket cost of 2 adults + 1 child (e.g. soi by 200 or 170)

AND

M2 for complete method to reduce any valid ticket price or combination by 15% (eg full attempt at 85% or 100% − 15%) isw

or
M1 for complete method to find 15% of a valid ticket price or combination isw

AND

M2 for complete method to increase *their ticket cost* by 2%
or
M1 for complete method to find 2% of *their ticket cost* | This may be at the start or later if calculating individual ticket prices and payments even if errors in the prices
Working with just an individual ticket price will be M2M2max)

Valid ticket price combinations are e.g. 40, 80, 120, 160, 200
"Complete method" means it would lead to a correct answer if not for arithmetic slips.
M2 may be implied by e.g. 170, 34, 68, 102, 136
M1 may be implied by e.g. 30, 6, 12, 18, 24

May be from an original "valid ticket price or combination" or from a calculated sale price.
The 2% increase and 15% decrease can be done in either order but if the15% decrease is done first with the original price the 2% increase must be done with *their* sale price and vice versa |

OCR GSCE – Thursday 24 May 2018 – Paper 4 (Calculator) Higher Tier

23.

| 10 | | 24 | 5 | accept any correct method e.g.
M1 for 1 − [0].6 soi by [0].4 or 40

M1 for [0].6 × [0].2 or [0].12 or 12 soi by [0].096(9.6)

M1 for [0].216 − [0].12 or [0].096(9.6)

M1 for *their* [0].096 ÷ [0].4 or [0].24 | Working may be in decimals (or %)
e.g. table based on 100 :

       L   L'
M   12   48   60
M' 9.6 30.4 40
     21.6 78.4 100 |

OCR GSCE – Thursday 7 June 2018 – Paper 5 (Non - Calculator) Higher Tier

24.

4		Correct attempt to find 90% or 10% of 110	**M1**	or $\frac{99.4}{110}$[×100] **oe** or $\frac{9.5+1.1}{110}$[×100] **oe**	
		99 or 11 **and** 10.6	**A1**	or 90.36 to 90.4 or 9.6[4] **and** 10	**M1** implied by 99 seen or 11 and 10.6 seen or 90.36 or 9.6[4] and 10 seen Be aware of 90.36 or 9.6[4] appearing without written evidence as possible calculator use
		[She is] correct **oe**	**A1**	Dep on M1A1 earned	Other methods are possible

OCR GSCE – Tuesday 6 November 2017 – Paper 5 (Non - Calculator) Higher Tier

25.

| 7 | | 308 | 5 | **M4** for 252 ÷ 0.9 × 1.1 **oe**
OR
M1 for 252 ÷ 0.9 **oe**
A1 for 280
M1 for *their* 280 × 1.1 **oe**
A1FT for *their* 280 × 1.1 rot to nearest pound or better | |

OCR GSCE – Thursday 25 May 2017 – Paper 4 (Calculator) Higher Tier

26.

| 5 | | 34.5 | 3 | **M2** for 38.64 ÷ 1.12 oe
or
B1 for 1.12 or 112 | |

OCR GSCE – Thursday 8 June 2017 – Paper 5 (Non - Calculator) Higher Tier

27.

| 12 | | 120 | 5 | **M4** for 72 ÷ (0.5 × 1.2) oe
Or
M1 for 72 ÷ 0.5
A1 for 144
M1 for *their* 144 ÷ 1.2
A1FT for *their* 144 ÷ 1.2 correctly evaluated | A1 implies previous M1

FT rot to integer, implies previous M1 |

AQA GSCE – Thursday 4 June 2020 – Paper 2 (Calculator) Higher Tier

28.

		Alternative method 1	Total % for A after 6 tests – total % for B after 5 tests	
		60×5 or 300 or 52×5 or 260	M1	oe
		$\dfrac{24}{50} \times 100$ or 0.48×100 or 48	M1	oe 348 implies M1M1
		$60 \times 5 + \dfrac{24}{50} \times 100 - 52 \times 5$ or $300 + 48 - 260$ or 88	M1dep	oe eg 348 – 260 dep on M1M1
		44	A1	allow $\dfrac{44}{50}$
10		Alternative method 2	Total score for A after 6 tests – total score for B after 5 tests	
		$\dfrac{60}{100} \times 50$ or 30	M1	oe allow $\dfrac{30}{50}$ implied by 150 or 174
		$\dfrac{52}{100} \times 50$ or 26	M1	oe allow $\dfrac{26}{50}$ implied by 130
		$\dfrac{60}{100} \times 50 \times 5 + 24 - \dfrac{52}{100} \times 50 \times 5$ or $150 + 24 - 130$	M1dep	oe eg 174 – 130 dep on M1M1
		44	A1	allow $\dfrac{44}{50}$

Mark scheme and Additional Guidance continues on the next two pages

Alternative method 3	Total score for A after 6 tests – total score for B after 5 tests		
50×5 or 250		M1	oe implied by 150 or 130 or 174
$\dfrac{60}{100} \times 50 \times 5$ or 150 and $\dfrac{52}{100} \times 50 \times 5$ or 130		M1dep	oe allow $\dfrac{150}{250}$ and $\dfrac{130}{250}$
$\dfrac{60}{100} \times 50 \times 5 + 24 - \dfrac{52}{100} \times 50 \times 5$ or $150 + 24 - 130$		M1dep	oe eg $174 - 130$
44		A1	allow $\dfrac{44}{50}$

10 cont

Alternative method 4	Difference in scores after 5 tests + 6th score for A		
$60 - 52$ or 8		M1	oe
$\dfrac{60-52}{100} \times 50$ or 4		M1dep	oe eg $\dfrac{60}{100} \times 50 - \dfrac{52}{100} \times 50$ or $30 - 26$ allow $\dfrac{4}{50}$
$\dfrac{60-52}{100} \times 50 \times 5 + 24$ or $4 \times 5 + 24$ or $20 + 24$		M1dep	oe
44		A1	allow $\dfrac{44}{50}$

Additional Guidance is on the next page

	Additional Guidance	
	To award the 3rd M a calculation or a value (not an equation) must be seen	
	Select the scheme that favours the student for the first 2 M marks even if not subsequently used	
10 cont	Alt 1 Do not award 1st M for 300 if incorrect method seen eg 6 × 50 = 300 does not score the 1st M	
	Alt 1 Do not award 2nd M for 48 if incorrect method seen eg 100 − 52 = 48 does not score the 2nd M	
	Alt 2 Do not award 2nd M for 26 if incorrect method seen eg 50 − 24 = 26 does not score the 2nd M	

AQA GSCE – Thursday 8 June 2020 – Paper 3 (Calculator) Higher Tier

29.

3	400%	B1	

AQA GSCE – Tuesday 21 May 2019 – Paper 1 (Non - Calculator) Higher Tier

30.

	Alternative method 1		
	$3 \div \dfrac{20}{100}$ or 3×5 or 15 or 3×6	M1	oe
	18	A1	
7	**Alternative method 2**		
	$1.2x = x + 3$	M1	oe equation
	18	A1	
	Additional Guidance		
	Trial and improvement scores 0 or 2 unless M1 can be awarded for 15		
	15 seen scores M1		

AQA GSCE – Thursday 8 November 2018 – Paper 2 (Calculator) Higher Tier

31.

19	4 × 10 or 40 and 2 × 3 or 6 or $\frac{2}{4}$ and $\frac{3}{10}$ or 0.5 and 0.3	M1	oe eg 50% and 30%
	$\frac{2 \times 3}{4 \times 10}$ or $\frac{\text{their } 6}{\text{their } 40}$ or 0.15	M1dep	oe eg $\frac{3}{20}$ or $\frac{2}{4} \times \frac{3}{10}$ or 0.5 × 0.3
	15	A1	
	Additional Guidance		
	2 : 4 and 3 : 10		M0

AQA GSCE – Thursday 7 June 2018 – Paper 2 (Calculator) Higher Tier

32.

4	400%	B1	
	Additional Guidance		

AQA GSCE – Thursday 6 November 2017 – Paper 2 (Calculator) Higher Tier

33.

2	250%	B1	
	Additional Guidance		

AQA GSCE – Wednesday 25 May 2017 – Paper 1 (Non - Calculator) Higher Tier

34.

11	**Alternative method 1**		
	4 × 15 or 60 or 2 × 10 or 20 or 80	M1	oe
	$\frac{10}{100}$ × their 80 or 8 or 1.1 and working for first M1 seen	M1dep	oe $\frac{10}{100}$ × their 60 or 6 or 66 or $\frac{10}{100}$ × their 20 or 2 or 22
	their 80 + their 8 or 1.1 × their 80 or 88	M1dep	oe their 60 + their 6 + their 20 + their 2 or 1.1 × their 60 + 1.1 × their 20 or their 66 + their 22
	0.03 × their 88 or 2.64 or their 88 × 1.03	M1dep	oe
	90.64(p)	A1	

	Alternative method 2		
	$\dfrac{10}{100} \times 15$ or 1.5(0) and $\dfrac{10}{100} \times 10$ or 1 or 1.1 seen	M1	oe
	15 + their 1.5(0) or 15 × 1.1 or 16.5(0) and 10 + their 1 or 10 × 1.1 or 11	M1dep	oe 27.5(0) implies M2
11 cont	their 16.5(0) × 0.03 or 0.495 and their 11 × 0.03 or 0.33 or their 16.5(0) × 1.03 or 16.995 and their 11 × 1.03 or 11.33	M1dep	oe 4 × their 16.5(0) + 2 × their 11 or their 66 + their 22 or 88
	their 0.495 × 4 + their 0.33 × 2 or 1.98 + 0.66 or 2.64 or their 16.995 × 4 or 67.98 and their 11.33 × 2 or 22.66	M1dep	oe 0.03 × their 88 or 2.64 or their 88 × 1.03
	90.64(p)	A1	

	Alternative method 3		
11 cont	4 × 15 or 60 or 2 × 10 or 20 or 80	M1	oe
	$\frac{10}{100}$ × their 80 or 8 or $\frac{13}{100}$ × their 80 or 10.4(0) or 1.13 and working for first M1 seen	M1dep	oe $\frac{13}{100}$ × their 60 or 7.8(0) or $\frac{13}{100}$ × their 20 or 2.6(0)
	their 80 + their 10.4(0) or 1.13 × 80 or 90.4(0) **or** 0.03 × their 8 or 0.24	M1dep	oe 60 + their 7.8(0) + 20 + their 2.6(0) or 67.8(0) + 22.6(0)
	their 80 + their 10.4(0) or 1.13 × 80 or 90.4(0) **and** 0.03 × their 8 or 0.24	M1dep	oe
	90.64(p)	A1	

AQA GSCE – Tuesday 13 June 2017 – Paper 3 (Calculator) Higher Tier

35.

	Alternative method 1			
	$\frac{25}{100}$ × 18 000 or 4500 and 18 000 – their 4500 or 18 000 × (1 – 0.25) or 18 000 × 0.75 or 13 500 or 0.88	M1	oe	
16	their 13 500 × $(1-0.12)^4$ or their 13 500 × 0.88^4 their 13 500 × $(1-0.12)^3$ or their 13 500 × 0.88^3 or 9199.87 or 9199.88 or 9199.90 or 9200	M1dep	oe Complete method for at least 4 years	
	8095.88 or 8095.89 or 8095.90 or 8096 or 8096.00 or 8100 or 8100.00	A1	Correct money notation	
	Alternative method 2			
	$\frac{25}{100}$ × 18 000 or 4500 and 18 000 – their 4500 or 13 500 or 0.88	M1	oe	
	13 500, 11 880, 10 454.(…) 9199.(…)	M1dep	oe Complete method for at least 4 years	
	8095.88 or 8095.89 or 8095.90 or 8096 or 8096.00 or 8100 or 8100.00	A1	Correct money notation	

Additional guidance is on the next page

	Additional Guidance	
	Condone eg £8095.88p	M1M1A1
	8095.887…	M1M1A0
16 cont	Note the values for successive calculations are 13 500, 11880, 10454.4, 9199.87(2), 8095.88(736) The values for successive savings are 4500, 1620, 1425.6, 1254.52(8), 1103.98	
	For method marks allow rounding or truncating of their totals or savings	

AQA GSCE – Sample Paper 1 (Non - Calculator) Higher Tier

36.

1	400 × 1.07	B1	

AQA GSCE – Sample Paper 3 (Calculator) Higher Tier

37.

	Alternative method 1		
	6.31 – 3.6(0) or 2.71	M1	
	their 2.71 ÷ 3.6(0) (× 100) or 0.752(7…) or 0.753	M1dep	
	75.2(7…) or 75.28 or 75.3	A1	Allow 75 with correct method seen
5	**Alternative method 2**		
	6.31 ÷ 3.6(0) (× 100) or 1.752(7…) or 1.753 or 175.2(7…) or 175.3	M1	
	1.752(7…) – 1 or 1.753 – 1 or 175.2(7…) – 100 or 175.3 – 100	M1dep	
	75.2(7…) or 75.28 or 75.3	A1	Allow 75 with correct method seen