AVERAGES

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

1.

4	(a)		48	P1	start to process eg. 3 × 80 (=240)
				P1	'240' ÷ 5
				A1	
	(b)			C1	eg. she may drive a different distance and therefore her average speed could be different

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

2.

10	(a)	9×6	54	2	M1 for a method to find the speed e.g 9 ÷ 10, 9 ÷ 0.16 A1 cao
	(b)		Graph completed	3	B1 horizontal line from (30,21) to (45,21) M1 for a complete method to show the return journey is 30 mins or ½ hour evidenced by the line on the graph or by calculation A1 Correct line drawn from Luscoe (x,21) to (x + 30,0)

Pearson Edexcel - Thursday 4 June 2015 - Paper 1 (Non-Calculator) Higher Tier

3.

14			54	3	M1 for any correct use of distance, speed, time formulae, eg.10 ÷ 40 (=0.25) or 15 min M1 (dep) for a complete method to find speed from G to H, eg.18 ÷ (35 – "15") × 60 oe. A1 cao

Pearson Edexcel - Friday 7 November 2014 - Paper 2 (Calculator) Higher Tier

4.

*23			Yes, average speed could have been as high as 80.622...	5	B1 for 4535 or 4534.999... or 202.5 M1 for 4535 (oe) ÷ 202.5 M1 for ×3600 and ÷1000 A1 for 80.622... C1 (dep on first M1) for correct conclusion from their calculations

Pearson Edexcel - Monday 9 June 2014 - Paper 1 (Non-Calculator) Higher Tier

5.

14			6 hours	4	B1 for 5 miles = 8 km or equivalent statement or for $\frac{8}{5}$ or $\frac{5}{8}$ used correctly M1 for 50 × r with $1.5 \leq r \leq 1.7$ oe or 480 × s with $0.6 \leq s \leq 0.7$ oe M1 for 480 ÷ speed or distance ÷ 50 A1 oe

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

6.

***11**		$\frac{30}{24} \times 60 = 75$	Debbie + explanation	4	M1 for reading 24 (mins) and 30 (km) or a pair of other values for Debbie M1 for correct method to calculate speed eg. 30 ÷ 24 oe A1 for 74 – 76 or for 1.2 – 1.3 and 1.1 C1 (dep on M2) for correct conclusion, eg Debbie is fastest from comparison of "74 – 76" with 66 (kph) or "1.2 – 1.3" and 1.1 (km per minute) **OR** M1 for using an appropriate pair of values for Ian's speed eg 66 and 60, 33 and 30, 11 and 10 M1 for pair of values plotted on graph A1 for correct line drawn C1 (dep on M2) for Debbie is fastest from comparison of gradients. **OR** M1 for reading 24 (mins) and 30 (km) or a pair other values for Debbie M1 for Ian's time for same distance or Ian's distance for same time. A1 for a pair of comparable values. C1 (dep on M2) for Debbie is fastest from comparison of comparable values.

Pearson Edexcel - Monday 4 March 2013 - Paper 2 (Calculator) Higher Tier

7.

7*	(a)		2.5	2	M1 for 15 ÷ 6 oe A1 for 2.5 or $2\frac{1}{2}$
	*(b)		Yes + evidence	2	M1 for a correct method to change 15 miles into kilometres C1(dep M1) for 24 km **and** statement with correct conclusion [SC: B1 for "Yes" oe and 24 km shown if M0 scored] or M1 for a correct method to change 20 kilometres into miles C1(dep M1) for 12.5 miles **and** statement with correct conclusion [SC: B1 for "Yes" oe and 12.5 miles shown if M0 scored]

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

8.

13	7120 ÷ 8	890	2	M1 for 7120 ÷ 8 or 7120 ÷ 480 A1 cao

OCR GSCE – Tuesday 12 June 2018 – Paper 6 (Calculator) Higher Tier

9.

1			8, 8, 13 and 15	**3**	**B2** for 3 or 4 numbers with at least two conditions met out of: • At least two numbers are 8 • The range is 7 • The total is 44 or **B1** for 4 numbers with one condition met or 44 seen	Accept any order Examples: **B2** for 8, 8, 10.5, 17.5 **B2** for 8, 8, 8, 20 **B2** for 8, 8, 28 **B2** for 1, 8, 8 **B1** for 8, 8, 8, 8 **B0** for 8, 8

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

10.

***6**			69, 76, 76, 79	**4**	In any order **B3** for 4 values with a mode of 76 and a range of 10 OR **B1** for the sum of the 4 values is 300 soi **B1** for at least 2 values with a mode of 76 **B1** for a range of 10 for their given values	Mark final answer in working if answer line blank Integers only for all B marks Condone if 300 shown in working and then *their* final values do not sum to 300 May be from 2, 3 or 4 values on answer line May be from 2, 3 or 4 values on answer line

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

11.

12	$a = 2$ and $b = 4$ and $c = 5$ or $a = 4$ and $b = 2$ and $c = 5$ or $a = 0$ and $b = 6$ and $c = 5$	B3	B2 $a + b = 6$ with integer values of $a \geqslant 0$ and $b \geqslant 1$ B1 $c = 5$ or $a + b + c = 11$ with integer values of $a \geqslant 0$ and $b \geqslant 0$ and $c \geqslant 0$ or 13th value = 3 and 14th value = 4 stated or correct median position indicated on a list
	Additional Guidance		
	Values may be seen alongside or in the table		
	Blank answer line does not indicate zero for that value eg $a =$ _____ $b = 6$ $c = 5$		B1
	$a = 2$ $b = 6$ $c = 5$		B1
	$a = 11$ $b = 0$ $c = 0$		B1
	$a = 6$ $b = 0$ $c = 5$		B1
	$a = 6$ $b = 0$ $c = 3$		B0

AQA GSCE – Monday 12 November 2018 – Paper 3 (Calculator) Higher Tier

12.

14	19 × 82 or 1558	M1	
	$\frac{\text{their } 1558 + 93}{20}$ or $\frac{1651}{20}$	M1dep	oe
	82.55 or 82.6	A1	
	Additional Guidance		

AQA GSCE – Monday 24 May 2018 – Paper 1 (Non - Calculator) Higher Tier

13.

9	$-2\frac{7}{8} + 15\frac{1}{4}$ or $15\frac{2}{8}$ or (–)2.875 and 15.25 or (–)$\frac{23}{8}$ and $\frac{61}{4}$	M1	oe common denominator for both fractional parts of the mixed numbers conversion of both numbers to decimals with at least one correct conversion of both numbers to improper fractions with at least one correct
	$-2\frac{7}{8} + 15\frac{2}{8}$ or –2.875 + 15.25 or $-\frac{23}{8} + \frac{122}{8}$	M1dep	oe common denominator correct decimals oe common denominator
	$\frac{99}{8}$ or $12\frac{3}{8}$ or 12.375	A1	oe fraction, mixed number or decimal
	Alternative method 2		
	–2 + 15 and (–)$\frac{7}{8} + \frac{1}{4}$	M1	
	–2 + 15 and (–)$\frac{7}{8} + \frac{2}{8}$ or $13 - \frac{5}{8}$	M1dep	oe common denominator
	$\frac{99}{8}$ or $12\frac{3}{8}$ or 12.375	A1	oe fraction, mixed number or decimal
	Additional Guidance		
	$15\frac{1}{4} - -2\frac{7}{8}$ scores M0, but followed by $15\frac{2}{8} + 2\frac{7}{8}$ scores M1 on Alt 1		
	Values in 2nd mark must be correct; no ft from incorrect conversion		
	$\frac{99}{8}$ incorrectly converted to a decimal or mixed number		M1M1A1
	$13\frac{-5}{8}$		M1M1A0

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

14.

15	Men had more consistent scores than women	B1	
	Additional Guidance		

AQA GSCE – Thursday 2 November 2017 – Paper 1 (Non - Calculator) Higher Tier

15.

9	$n - 1$	B1	

AQA GSCE – Thursday 2 November 2017 – Paper 1 (Non - Calculator) Higher Tier

16.

20	Median ticked and a valid reason for not using mode (eg there is no mode) and a valid reason for not using mean (eg 82 will affect the mean disproportionately)	B2	B1 median ticked or valid reason to reject mean or valid reason to reject mode with any box or no box ticked
	Additional Guidance		
	Accept any indication in place of a tick		
	Ignore non-contradictory statements alongside a correct reason		
	Median ticked with reasons "There is no mode" and "82 would skew the mean"		B2
	No box or mode ticked with reason "Not mean, because of the 82"		B1
	No box or mean ticked with reason "Not mode, all the numbers are different"		B1
	No box or mode ticked with statement that 82 is very large		B0
	Condone "one number" oe for "82" in reason for mean if intention is clear, eg "One of the numbers is far bigger than the others"		
	Do not accept reasons for the mean indicating that 12.7 is too high unless 82 is also mentioned		
	Do not accept reasons given with the wrong measure eg "It cannot be the mean as they're all different"		
	Do not accept a reason which simply defines mean and mode		
	Giving reasons for mode and mean does not imply a selection of median – the box must be ticked to achieve both marks		
	Median ticked with two valid reasons which are not attributed to median and mode eg median ticked and "There is not a repeated number" and "82 is far too high to calculate the average"		B2
	Otherwise, reasons must be attributed		

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

17.

12	64 000 000 ÷ 95 000 or 673.(…) or 674 or $\frac{12\,800}{19}$ or 82 000 000 ÷ 140 000 or 585.(…) or 586 or $\frac{4100}{7}$	M1	oe population ÷ area Accept a pair of consistent divisions eg 64 ÷ 95 or 0.673… or 0.674 and 82 ÷ 140 or 0.585… or 0.586
	673.(…) or 674 or 670 and 585.(…) or 586 or 590 or $\frac{89\,600}{133}$ and $\frac{77\,900}{133}$	A1	Correct comparable values from consistent divisions eg 0.674 and 0.586 Accept 700 with division seen for UK Accept 600 with division seen for Germany
	Comparable values and correct conclusion	A1ft	eg 673 and 585 and greater for UK 0.673 and 0.585 and greater for UK ft M1A0 and comparable values Ignore further work

Additional Guidance	
Comparable values means both must be in the same form eg fractions with common denominators	
64 000 000 ÷ 95 000 = 67.4 82 000 000 ÷ 140 000 = 5857 Germany is higher	M1 A0 A1ft
Ignore subtraction of results	
673 and 585 and UK has more people per square mile	M1A1A1ft
673 and 585 and Germany has more space for their population	M1A1A1ft
673 and 585 and UK's population is less spread out	M1A1A1ft
673 and 585 and UK is more than Germany	M1A1A1ft
673 and 585 and UK is 78 more than Germany (ignore further work)	M1A1A1ft

Additional Guidance continues on the next page

12 cont	673 and 585 and the difference is 88	M1A1A0ft
	673 and 585 and UK population is bigger	M1A1A0ft
	673 and 586 and UK	M1A1A0ft
	673 and 585 and Germany has more space	M1A1A0ft
	673 > 585 (unless links to countries in working)	M1A1A0ft
	$\frac{12\,800}{19}$ and $\frac{4100}{7}$ and UK is greater (fractions not comparable)	M1A0A0ft

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

18.

13	**Alternative method 1**		
	12 × 1.58 or 18.96 or 28 × 1.52 or 42.56	M1	
	28 × 1.52 – 12 × 1.58 or their 42.56 – their 18.96 or 23.6	M1dep	oe
	their 23.6 ÷ (28 – 12) or their 23.6 ÷ 16	M1dep	oe dep on M1 M1
	1.475 or 1.48	A1	
	Alternative method 2		
	$16x$ + 12 × 1.58 or $16x$ + 18.96 or 28 × 1.52 or 42.56	M1	
	($16x$ =) their 42.56 – their 18.96 or ($16x$ =) 23.6	M1dep	oe
	their 23.6 ÷ (28 – 12) or their 23.6 ÷ 16	M1dep	oe dep on M1 M1
	1.475 or 1.48	A1	
	Additional Guidance		
	23.6 ÷ 16 = 1.475 = 1.5		M1M1M1A1
	23.6 ÷ 16 = 1.5		M1M1M1A0
	23.6 ÷ (28 – 12) 23.6 ÷ 14		M1M1M1A0
	23.6 ÷ 14		M1M1M0A0
	Beware use of 0.06 eg 1.58 – 1.52 = 0.06		M0