

SCATTER GRAPHS

Pearson Edexcel - Thursday 8 November 2018 - Paper 2 (Calculator) Foundation Tier

1.

21	statements	C1	for lobf incorrect Acceptable examples lobf lobf does not suit all points/not a lobf lobf wrong since hits x axis/is inaccurate/should be amongst the crosses lobf goes through the origin/through one point Not acceptable examples no correlation/there is no title	
		C1	for height scale not linear Acceptable examples 150 missing Height not linear / Height numbers going up wrong Not acceptable examples 150 graph does not start at 140/graph does not start at 0 height should start at 170	

Pearson Edexcel - Tuesday 12 June 2018 - Paper 3 (Calculator) Foundation Tier

2.

19	(a)	negative	B1	cao	Ignore any description of a relationship and any reference to strength of correlation
	(b)	Explanation	C1	for a correct explanation, eg "not in line with the trend of the other points" "does not fit in with the correlation" "is far away from the other points or line of best fit"	
	(c)	Comment	C1	for an explanation eg "point would be outside of the range of the scatter diagram"	

Pearson Edexcel – Specimen 2 - Paper 3 (Calculator) Foundation Tier

3.

26	(a)		improvement	C1	appropriate improvement eg do not have axes starting at (0, 0)
	(b)		explanation	C1	explanation eg pine cone has a very short width for its length

Pearson Edexcel – Specimen 1 - Paper 3 (Calculator) Foundation Tier

4.

21	(a)		(4,10)	B1	cao
	(b)(i)		Line drawn	B1	Straight line drawn passing between (2, 16) and (2, 28) AND (13, 80) and (13, 92)
	(b)(ii)		Positive	C1	positive OR description of dynamic relationship
	(c)		Value between 60 and 70	C1	a correct value given
	(d)		Statement	C1	for referring to the danger of extrapolation outside the given range or for a given point

OCR November 09 November 2020- Morning (Calculator) Foundation Tier

5.

14	a	Points plotted at (210, 130) and (100, 80)	2	B1 for 100 soi or for one point plotted correctly	Half square tolerance May be implied by point plotted at duration 100
	b	Point at (220, 64) circled	1		
	c	i	Ruled line of best fit drawn	1	Use overlay anchored on top right point Line must reach to edges of overlay
	c	ii	Their line used to give duration for £90 ± 5 minutes	1 FT	Strict FT from their intended straight line of best fit NB read (n, 90) not (90, n)
	d		[7 hours is] is beyond the given data oe	1	Accept eg the trend may not continue

OCR Tuesday 5 November 2019 – Morning (Calculator) Foundation Tier

6.

14	a	Points plotted at (210, 130) and (100, 80)	2	B1 for 100 soi or for one point plotted correctly	Half square tolerance May be implied by point plotted at duration 100
	b	Point at (220, 64) circled	1		
	c	i	Ruled line of best fit drawn	1	Use overlay anchored on top right point Line must reach to edges of overlay
	c	ii	Their line used to give duration for £90 ± 5 minutes	1 FT	Strict FT from their intended straight line of best fit NB read (n, 90) not (90, n)
	d		[7 hours is] is beyond the given data oe	1	Accept eg the trend may not continue

OCR Thursday 6 June 2019 – Morning (Non-Calculator) Foundation Tier

7.

11	(a)	Four points correctly plotted	2	B1 for 2 or 3 correct plots	Overlay gives guidance, tolerance ± ½ small square
	(b)	Positive	1		Ignore embellishments
	(c)	Ruled line of best fit No - it is too low oe	1 1		Use overlay for LOBF – ruled line should touch blue lines and should not go outside the yellow lines Eg No, at 95cm you're only about age 3 SEE APPENDIX
	(d)	Only have data on heights up to age 9 oe	1		e.g. the trend may not continue SEE APPENDIX

OCR Monday 12 November 2018 – Morning (Calculator) Foundation Tier

8.

16	(a)		Points plotted at (21, 18) and (7, 8)	1		Tolerance ± 1 mm
	(b)		1 : 3	3	B2 for 3 : 9 oe or answer 3 : 1 or B1 for 3 [dancers] or 9 [dancers] identified If 0 scored then SC1 for 4 : 8 seen and simplified to 1 : 2	NOT from 4 : 12 May be on graph 4 : 12 simplified to 1 : 3 scores 0
	(c)		The wedges at the front look bigger than those at the back oe	1		Comments should refer to the 3D nature of the pie chart e.g. It's tilted, slanted, seen from an angle etc. Ignore all references to missing angles, not being joined, etc. Mark the best bit unless contradicted

OCR Monday 24 May 2018 – Morning (Calculator) Foundation Tier

9.

15	(a)		accept any correct explanation e.g. sample size is small, no mention of subjects being randomly selected	1		If more than one choose the best one see list of exemplars
	(b)		two points accurately plotted	2	B1 for each	tolerance $\pm \frac{1}{2}$ small square and use overlay as a guide
	(c)		positive	1		ignore any extras e.g. strong
	(d)		a line or a mark between (35,9) and (35,15) 9 to 15	1 1		use overlay as a guide, a clear indication of method to find their answer
	(e)		9 soi For putting <i>their</i> 9 out of 12 into a percentage oe e.g. 9 in 12 or $\frac{9}{12}$ [=] 75% A correct conclusion from <i>their</i> 9 e.g. "No/She is wrong"	B1 M1 A1FT	Accept any correct reasoning e.g. M1 for 0.80×12 or 9.6 A1FT for a correct conclusion from <i>their</i> 9 e.g. "No/She is wrong" If no points plotted in (b) award M1 for 8 [out of 10] = 80% and A1 for "Yes"	9 can be implied by 75 Accept fractions or decimals providing the two figures can be compared FT <i>their percentage or figure</i>

OCR Thursday 2 November 2017– Morning (Calculator) Foundation Tier

10.

17	(a)		4 points correctly plotted	2	B1 for 2 or 3 points correctly plotted	tolerance ± 1 mm
	(b)		Strong / good positive	1		
	(c)		71.[42...] or 71.4[3] nfw	4	B1 for 21 B1 for 15 M1 for $(\text{their } 15) \div 21 \times 100$ oe If 0 scored SC1 for 'y = x' drawn or, if points not plotted in (a), SC1 for $\frac{12}{17}$	21 from 17+4 FT their diagram

Pearson Edexcel – Sample Papers - Paper 3 (Calculator) Foundation Tier

11.

21	(a)	Draws LOBF Finds $ht + \text{base} = \frac{85 - 20}{0 - 25} = -2.6$	No + reason	M1 Interpret question eg. draw line of best fit M1 Start to test eg. gradient e.g. $\frac{85 - 20}{0 - 25} = -2.6$
	(b)		The LOBF would have to be used outside the data	C1 Gradient within range $\pm(2 - 3)$ and 'no' C1 Convincing explanation

OCR Sample Question Paper 2 – Morning/Afternoon (Non - Calculator) Foundation Tier

12.

10	(a)	(i)	Positive correlation	1 1 AO1.1		Condone 'positive' or correct description, e.g. 'As the temperature increases, more ice creams are sold'
		(ii)	Correct reason, e.g. 'He sold far more ice creams than you would expect him to for a 20°C day'	1 1 AO2.3a		
	(b)	(i)	75-95	1 1 AO1.3a		
		(ii)	140-170	1 1 AO1.3a		
		(iii)	The (b)(i) prediction is more reliable, as it is within the range of the given data	2 1 AO2.1b 1 AO2.4a	B1 for (b)(i) prediction identified with partial reason	
	(c)		No, because there may be other factors involved	2 1 AO2.5a 1 AO3.4b	B1 for 'No', with partial reason	

AQA Tuesday 19 May 2020 – Morning (Non-Calculator) Foundation Tier

13.

Q	Answer	Mark	Comments
20	Graph A Strong negative	B1	
	Graph B No correlation	B1	allow 'No' or 'None'
	Additional Guidance		
	Condone incorrect spelling if intention is clear		
	Allow clear link(s) from the table to the answer line eg an arrow from 'Strong negative' to the Graph A answer line		

AQA Thursday 7 June 2018 – Morning (Calculator) Foundation Tier

14.

18(a)	Positive	B1	
	Additional Guidance		
	Ignore descriptive words such as 'strong' or 'weak' or 'scattered'		

18(b)	Correct straight line which passes between (10, 35) and (10, 55) and between (70, 135) and (70, 155)	B1	line must extend from 10 to 70
	Draws a vertical line from umbrella sales of £60 to meet their line or marks a point on their line of best fit corresponding to umbrella sales of £60	M1	their line / curve must be increasing may be implied by correct value for their line / curve
	Correct value for their line	A1ft	ft their increasing line / curve allow any reading within one vertical square eg if their vertical line crosses their line of best fit in the first square above 125, allow [125, 130]
	Additional Guidance		
	No increasing line / curve drawn		B0M0A0
	Mark intention for straight line for B1		
	The line may go through the coordinates of the gates but must not go above or below		
	Ignore any parts of the line outside the range 10 to 70		

AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier

15.

12(a)	Correct criticisms about any two of the incorrect plotting of (17, 80) at (17,60)	B2	B1 for one correct comment about point, position or length
	the incorrect position of the line of best fit		Allow reference to a better line of best fit drawn eg The line should look like mine
	the incorrect length of the line of best fit (outside the range of the data)		
	Additional Guidance		
	A comment about the incorrect point must refer to the specific point		
	One of the points is wrong and point at (17, 60) circled on graph		B1
	Not plotted (17, 80) correctly		B1
	x on 60 should be on 80		B1
	Point at 60 is wrong		B1
	Day 3 is wrong/ there is no day 3 on the graph		B1
	17 is plotted at 60/ 17 should be plotted at 80		B1
	One of the points is wrong		B0
	Points on the graph don't match the table		B0
	Not put all the points in the correct place		B0
	A comment about the line of best fit must not have any misconception		
	The line is not steep enough/ at wrong angle/ should be more vertical		B1
	The line isn't a line of best fit/ the line doesn't fit the points		B1
	The line of best fit goes below 17/ condone past 30 (implies outside range)		B1
	The line of best fit is wrong/ not drawn accurately/ not drawn properly		B0
	It isn't a line of best fit because it doesn't start at 0		B0
The line of best fit is wrong it should go through (0, 0)		B0	
The line of best fit doesn't go through the points		B0	
The line is wrong it only goes through one cross		B0	
The line of best fit doesn't go to the axis (implies it's too short)		B0	

12(b)	Ticks No and explanation that it should be the highest value – the lowest value	B1	Allow any unambiguous indication of No, if boxes blank may be in the reason oe eg No, it should be the hottest – the coldest
	Additional Guidance		
	Does not tick or say No		B0
	Ticks No and It should be 30 – 17		B1
	Ticks No and It should be 13		B1
	Ticks No and He hasn't subtracted the lowest value		B1
	Ticks No and It should be $17 - 30 = 13$		B1
	Ticks No and Range = biggest – smallest		B1
	Ticks No and The lowest temperature is 17 not 20		B1
	Ticks No and He hasn't used the lowest temperature		B1
	Ticks No and The lowest temperature is not 20		B1
	Ticks No and The lowest temperature is 17		B1
	Ticks No and The numbers range from 17 to 30		B1
	Ticks No and It should be $30 - 17 = 23$		B0
	Ticks No and It should be 17 – 30		B0
	Ticks No and You should take the smallest from the largest 30 – 26		B0
	Ticks No and You should take the smallest from the largest 180 – 17		B0
Ticks No and It should be the smallest – the largest		B0	
Ticks Yes and It should be the highest value – the lowest value		B0	

12(c)	Alternative method 1		
	180 + 150 + 80 + 130 + 120 or 660	M1	
	their 660 × 0.15 or 99 or their 660 × 0.85 or 561	M1dep	oe
	7 × 5 or 35	M1	
	their 660 – their 99 – their 35 or their 561 – their 35	M1dep	dep on M1M1M1
	526(.00)	A1	SC4 509
	Alternative method 2		
	180 × 0.15 or 27 and 150 × 0.15 or 22.5(0) and 80 × 0.15 or 12 and 130 × 0.15 or 19.5(0) and 120 × 0.15 or 18	M1	oe
	their 27 + their 22.5(0) + their 12 + their 19.5(0) + their 18 or 99	M1dep	
	7 × 5 or 35	M1	
	180 + 150 + 80 + 130 + 120 – their 99 – their 35	M1dep	dep on M1M1M1
	526(.00)	A1	SC4 509

Alternative methods 3, 4 and Additional Guidance continue on the next three pages

12(c) cont	Alternative method 3		
	180 × 0.15 or 27 and 150 × 0.15 or 22.5(0) and 80 × 0.15 or 12 and 130 × 0.15 or 19.5(0) and 120 × 0.15 or 18	M1	oe
	180 – their 27 or 153 and 150 – their 22.5(0) or 127.5(0) and 80 – their 12 or 68 and 130 – their 19.5(0) or 110.5(0) and 120 – their 18 or 102	M1dep	Working out 85% of all five sales scores M1M1dep
	7 × 5 or 35 or their 153 – 7 or 146 and their 127.5(0) – 7 or 120.5(0) and their 68 – 7 or 61 and their 110.5(0) – 7 or 103.5(0) and their 102 – 7 or 95	M1	Subtracting five 7s
	their 153 + their 127.5(0) + their 68 + their 110.5(0) + their 102 – their 35 or their 146 + their 120.5(0) + their 61 + their 103.5(0) + their 95	M1dep	dep on M1M1M1
	526(.00)	A1	SC4 509

Alternative method 4 and Additional Guidance continue on the next two pages

12(c) cont	Alternative method 4		
	180 × 0.15 or 27 and 150 × 0.15 or 22.5(0) and 80 × 0.15 or 12 and 130 × 0.15 or 19.5(0) and 120 × 0.15 or 18	M1	oe
	their 27 + 7 or 34 and their 22.5(0) + 7 or 29.5(0) and their 12 + 7 or 19 and their 19.5(0) + 7 or 26.5(0) and their 18 + 7 or 25	M1	Adding five 7s
	their 34 + their 29.5(0) + their 19 + their 26.5(0) + their 25 or 134 or 180 – their 34 or 146 and 150 – their 29.5(0) or 120.5(0) and 80 – their 19 or 61 and 130 – their 26.5(0) or 103.5(0) and 120 – their 25 or 95	M1dep	dep on M1M1
	180 + 150 + 80 + 130 + 120 – their 134 or their 146 + their 120.5(0) + their 61 + their 103.5(0) + their 95	M1dep	dep on M1M1M1
	526(.00)	A1	SC4 509

Additional Guidance continues on the next page

Additional Guidance	
509 comes from using 60 from the incorrect point on the scatter graph	SC4
Use the scheme that awards the best mark	
35	M1
99	M1M1dep
134	M1M1M1dep
660 – 35 = 625 0.15 × 625 = 93.75 Answer 93.75	M1M0M1 M0A0
Build up method for 15% must be correct or method shown for incorrect parts eg 10% of 660 = 60, 5% = 30, 15% = 90 eg 10% of 660 = 660 ÷ 10 = 60, 5% = 30, 15% = 90	M1M0dep M1M1dep