PiXL AQA Style Paper 1F (November 2016) Mark Scheme

Q	Answer	Mark	Comments
1 (a)	(4, 7)	B1	CAO
1 (b)	63 mm	B1	Allow 61mm to 65mm inclusive – may be in diagram. Watch out for 6cm B0
	Additional guidance		
	If, in printing this paper, the page sizes have been reduced from A4 to A5, the measurement will be 45mm (allow 43mm to 47mm); if the pages are enlarged to A3, the measurement is 89m (allow 87mm to 91mm – not 9cm)		
1 (c)	Evidence of method for finding the midpoint seen	M1	May be on diagram (for example line drawn with point clearly indicated) or an attempt at use of a formula or a numerical method.
	(3 , 4)	B1	Award M1 B0 if one value is correct, even if no working seen.
2 (a)	2 × (6 + 3)	B1	Award B1 if the brackets are around 6+3
2 (b)	a^8	A1	A1 awarded if the power of 8 is given to the' 'a base – do not allow an alternative base.
2 (ci)	a	A1	Award A1 if a or a^1 is given. It must be simplified.
2 (cii)	Correct AND taking both the square and square root in either order will give the same solution. The brackets do not change the calculation here.	A2	Award the first A1 for ticking the correct box **and** indicating that the operators are inverses. A1 for noticing that the brackets are irrelevant.
3	2+3=5	M1	May be implied by correct answer
	2/5	A1	Award for any other fraction equivalent to 2.5

Q	Answer	Mark	Comments
4 (a)	80%	B1	
4 (b)	8/10 or 80/100	M1	Accept any equivalent fraction for this mark.
	4/5	A1	CAO
5	$48 \div 3$	M1	M1 may be implied by correct answer.
	16	A1	CAO
6	2:3	B1	
7	6x3 + 2x5	M1	Both of these multiplications must be seen for M1 or otherwise implied by correct answer – ie if A1 is awarded, award M1 also
	28	A1	
8	A-Tangent	B1	Award if spellings are correct since they are given in the question. Allow one slip once but not more for this question
	B-Diameter	B1	
	C-Chord	B1	
9	**Alternative method 1**		
	1-(0.1(0)+0.2(0)+0.15+0.05+0.3(0))	M1	Condone one error in conversion.
	0.2(0)	A1	CAO
	Alternative method 2		
	1-(2/20+4/20+3/20+1/20+6/20)	M1	Condone one error in conversion.
	4/20 or 1/5	A1	Any equivalent fraction should be accepted.
	Alternative method 3		
	100-(10%+20%+15%+5%+30%)	M1	Condone one error in conversion.
	20%	A1	CAO

Q	Answer	Mark	Comments
10	0.6	B1	May not be circled but indicated clearly with intention.
11	6^2=36 AND 7^2=49	M1	Both must be present for M1.
	The square of 6 is below 45 and the square of 7 is above 45, therefore the square root of 45 must be between these values.	A1	A clear reason, given in a sentence that is coherent.
12 (a)	The perimeter of Leaf *A* is smaller than the perimeter of Leaf *B*.	B1	
12 (b)	The area of Leaf *A* is bigger than the area of Leaf *B*.	B1	
12 (c)	Evidence of estimation method **or** any subtraction from 35(cm^2) if white squares around the leaf are enumerated	M1	
	21cm^2 ≤ (answer) ≤ 25cm^2	A1	Award M1 B1 if area is correct, even if no working or drawing seen.
	Additional guidance		
	Methods used for estimation could include, for example, numbered or shaded squares, ticks or crosses.		
13	6	B1	May not be circled but indicated clearly with intention.
14	No time frame in question (eg per day, per week, per month, etc).	B1	Do not accept two reasons based on errors in response boxes; one reason must be based on the question itself.
	Either response boxes overlap **or** no option for not using the swimming pool **or** no option for using the swimming pool more than 15 times	B1	
	Additional guidance		
	If “response boxes overlap” reason is given, it must be accompanied by a specific example (for example “someone using the swimming pool 10 times doesn’t know which box to tick”, or similar).		

Q	Answer	Mark	Comments
15 (a)	3x4 or list	B1	Accept one error in a list
	12	A1	CAO
15 (b)	£5 − £1.65 (= £3.35)	M1	
	Main meal: chicken Pudding: ice cream	B1	Only combination that costs £3.35. Both must appear.
16	Area = 36 (cm^2)	M1	Identifying the square has equal sides and finding the area. 6x6 here is enough to gain the mark and it may be implied by a correct solution.
	3cm	A1	Award CAO
17	3x>17	M1	Attempt to isolate x with correct order of operations seen
	x>17/3 or 17/3<x	A1	Award marks for mixed number solutions also ie $5\frac{2}{3}$.
18(a)	29	A1	Only accept if 29 seen – not 9 on its own.
18(b)	52-13	M1	Both 52 and 13 must be identified nd subtracted
	39	A1	CAO
19	Sugar 147g Butter 157.5g Flour 165g	M1	Recognition that 0.75 OE of original recipe is needed.
		A1	2 Correct amounts given, with or without units
		A1	CAO – units not required.
20	15% of 680 = 102	M1	
	680 – (their 102)	M1	
	578	A1	

Q	Answer	Mark	Comments
21	4.9cm	B1	May not be circled but indicated clearly with intention. This question is best answered by eliminating other options and recognition that $\sqrt{25}$ is just under 5.
22	449.50-91	M1	Attempt to find the cost of 2 standard class tickets and deduct from total.
	358.50 ÷ 3	M1	Their '£358.50' ÷ 3 may be accepted.
	£119.50	A1	CAO. Only award if given to 2 decimal places.
23	180-60	M1	Interior angle of hexagon found, alternative method using tringles is acceptable here. (4x180) ÷6=120.
	(180-120) ÷2	M1	Their '60' ÷ 2 may be accepted.
	30^0	A1	CAO
24	29	M1	10% of 290 found, may skip this stage so award if 31.90 seen for M2
	31.90	M1	11% found – condone one error here if method to find 11% is correct but arithmetic error.
	£1.90	A1	CAO
25	$3x(-7)^2$ or $3 \times -7 \times -7$.	M1	Condone lack of brackets in $(-7)^2$ if A1 awarded later.
	147	A1	CAO
26	$8.05 \leq W < 8.15$	B1	Correct upper and lower limits seen
		M1	Correct inequality sign for upper limit
		A1	CAO DO NOT CONDONE incorrect inequality signs.

Q	Answer	Mark	Comments
27	156 ÷ 3=	M1	Recognition that there are 3 ‘shares’ more pigs that equates to 156.
	52 x 7	M1	Their ‘52’ x 7may be accepted.
	364	A1	CAO
28(a)	10 and 20 minutes	B1	Any indication of this time frame is acceptable but both must be given
28(b)	7 minutes and 30 seconds	B1	Do not accept 7.5 minutes since this is a non-standard representation and minutes and seconds is given on the answer sheet.
28(c)	Total time = 2/3 of an hour	M1	Attempt to convert 40 minutes to a fraction of an hour – condone 0.66666 at this point.
	6000m	M1	Attempt to find the total distance travelled
	$6 \div \frac{2}{3}$	M1	Use of distance/time with 6km
	9	A1	CAO
29	$(-3)^3 - 7(-3) = -27 + 21$ $= -6$ $(-4)^3 - 7(-4) = -64 + 28 = -36$	M1	Substitutes in
	Yes, the solutions are either side of -12 meaning that a solution lies in the interval (-4, -3)	A1	Any valid justification can be awarded full marks. Candidates do not need to state ‘in the interval (-4, -3)
30	2, 6, 10, 14, 18, 22, 26, 30, 34, 38	M1	At least 6 values from list seen
	1, 4, 7, 10,13, 16, 19, 22, 25, 28, 31, 34, 37, 40	M1	At least 6 values from list seen
	10 and 22 and 34	A1	All 3 numbers listed in any order