Paper: 1MA1/2F

Question	Working	Answer	Mark	Notes
5 (a)		$\dfrac{33}{60}$	M1	for method to find number of students who did not walk to school eg 15 + 12 + 6 or 60 − 27 (=33) or 0.55 or for $1 - \dfrac{27}{60}$
			A1	for $\dfrac{33}{60}$ or equivalent fraction
(b) **Q1**		Pie chart drawn	M1	for method to find the angle for at least one sector eg $\dfrac{27}{60} \times 360$, $\dfrac{12}{60} \times 360$, $\dfrac{6}{60} \times 360$, $27 \div \dfrac{60}{360}$, $12 \div \dfrac{60}{360}$, $6 \div \dfrac{60}{360}$ oe (0.166..) NB: could be implied by one angle drawn accurately.
			M1	for drawing at least one sector accurately (from 4 sectors) eg 162°or 72°or 36°
			A1	for an accurately drawn pie chart
			B1	(dep on 4 sectors with at least one accurately drawn) for showing labels Walk Car Bicycle

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Question	Working	Answer	Mark	Notes
14 (a		168°, 120°, 72°	M1	for correct working to find an angle (could be implied by one angle drawn correctly on the pie chart)
			A1	for all three angles drawn ±2°
Q2			B1	(dep on M1) for correct labels (languages)
(b)		No and reason	C1	NO and reason given e.g. "don't have actual figures for Lowry"

Paper: 1MA1/3F

Question	Answer	Mark	Mark scheme	Additional guidance
12 **Q3**	Correct pie chart	M1 A1 A1	for method to find at least one angle eg P: 360 ÷ 60 × 24 (=144) **or** C: 360 ÷ 60 × 16 (=96) **or** M: 360 ÷ 60 × 20 (=120) for all 3 angles correctly calculated **OR** at least one accurately drawn angle fully a correct labelled pie chart	Use the overlay Working may be seen in or by the table If three equal sectors of 120° with no working award 0 marks Labels as "vegetables" from table not just angle size. Accept P, C, M

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Question		Answer	Mark	Mark scheme	Additional guidance
12 **Q4**		Correct pie chart	M1 A1 A1	for method to find at least one angle eg B: 360 ÷ "36" × 11 (= 110) **or** P: 360 ÷ "36" × 17 (= 170) **or** HD: 360 ÷ "36" × 8 (= 80) for at all 3 angles correctly calculated **OR** at least one accurately drawn angle for a fully correct labelled pie chart	Accept numbers if present in Number of fan column eg 0 added to a number is acceptable for this mark. Labels as "snacks" from table not just angle size.

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Question	Answer	Mark	Mark scheme	Additional guidance
16 (a)	120	M1	for sensible use of proportion eg $\dfrac{135}{90}$ (= 1.5) **or** $\dfrac{90}{135}$ (= $\dfrac{2}{3}$) **or** 135×4 (= 540) **or** $135 \div 9$ (=15) **or** $80 \div 90$ (= 0.888...)	ie $135 \div 9$ but not $135 \div 10$ without $80 \div 9$
		M1	for a complete method eg $80 \times$ "1.5" **or** $80 \div$ "$\dfrac{2}{3}$" **or** "540" $\times \dfrac{80}{360}$ **or** "15" $\times 8$ **or** "0.888..." $\times 135$	
		A1	cao	
(b)	$\dfrac{50}{540}$	M1	for method to find total number of cars, eg $135 \times \dfrac{360}{90}$ (= 540) **or** for $\dfrac{50}{135} \times \dfrac{1}{4}$ oe **or** begins to work with probability by using a numerator of 50 eg $\dfrac{50}{a}$ where a >50 and an integer	
Q5		A1	for $\dfrac{50}{540}$ oe ft "540" from part (a)	Accept any equivalent fraction, decimal form 0.09(25..) or percentage form 9(.25..)%

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Que.tion	Answer	Mark	Mark scheme	Additional guidance
18 **Q6**	No with fully correct figures	M1	for $(360 - 60) \div 2\ (= 150)$ or $\frac{60}{360} \times 480\ (= 80)$ oe	Angle of 150° may be seen on diagram
		M1	(dep) for method to find required number of students in School **A** eg $\frac{"150"}{360} \times 480\ (= 200)$ or $(480 - "80") \div 2\ (= 200)$	
		M1	for method to find required number of students in School **B**, eg $\frac{"90"}{360} \times 760\ (= 190)$ or $760 \div 4\ (= 190)$	ft the angle of 90 eg from $360 - 160 - 110$ calculated incorrectly, or measured incorrectly from the diagram within the range 88 to 92
		C1	for No with correct figures **Acceptable examples** No, 200 and 190 He is wrong, School A has 10 more **Not acceptable examples** Yes …. No, School A had 20 more [incorrect figures]	

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Question	Answer	Mark	Mark scheme	Additional guidance
14 **Q7**	Correct pie chart	M1	for a method to find at least one angle eg $\frac{50}{(50+45+25)} \times 360\ (= 150)$ **or** $\frac{45}{(50+45+25)} \times 360\ (= 135)$ **or** $\frac{25}{(50+45+25)} \times 360\ (= 75)$ oe	
		A1	for at all 3 angles correctly calculated **OR** at least one correct and accurately drawn angle (from no more than 3 sectors)	Do not award for drawing if the intention is to show more than 3 sectors 3 angles correct in table is enough for this mark irrelevant of diagram Labels as "City" from table not just angle
		A1	for a fully correct labelled pie chart	size.

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
16 **Q8**	Comments	C1	makes some comment about the labels **Acceptable examples** states what labels should be (not angles) labels are missing The label in the table does not match the label with the pie chart **Not acceptable examples** angles not marked on the pie chart	
		C1	comments about the inaccuracy of the angles in the pie chart **Acceptable examples** pie chart is not accurate / should be 108, 126,126 angles drawn inaccurately They haven't converted the number of potatoes to angles Need to scale the numbers in the table **Not acceptable examples** pie chart is wrong/ sectors are the wrong size (the angles) do not add up to 360	