

FSMQ

MATHEMATICS

4983 – Using Data
Mark scheme

4983
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Version/Stage: v0.1 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from aqa.org.uk

Key to mark scheme abbreviations

| | |
|--------------|--|
| M | mark is for method |
| m or dM | mark is dependent on one or more M marks and is for method |
| A | mark is dependent on M or m marks and is for accuracy |
| B | mark is independent of M or m marks and is for method and accuracy |
| E | mark is for explanation |
| ✓ or ft or F | follow through from previous incorrect result |
| CAO | correct answer only |
| CSO | correct solution only |
| AWFW | anything which falls within |
| AWRT | anything which rounds to |
| ACF | any correct form |
| AG | answer given |
| SC | special case |
| OE | or equivalent |
| A2,1 | 2 or 1 (or 0) accuracy marks |
| -x EE | deduct x marks for each error |
| NMS | no method shown |
| PI | possibly implied |
| SCA | substantially correct approach |
| c | candidate |
| sf | significant figure(s) |
| dp | decimal place(s) |

No Method Shown

Where the question specifically requires a particular method to be used, we must usually see evidence of use of this method for any marks to be awarded.

Where the answer can be reasonably obtained without showing working and it is very unlikely that the correct answer can be obtained by using an incorrect method, we must award **full marks**. However, the obvious penalty to candidates showing no working is that incorrect answers, however close, earn **no marks**.

Where a question asks the candidate to state or write down a result, no method need be shown for full marks.

Where the permitted calculator has functions which reasonably allow the solution of the question directly, the correct answer without working earns **full marks**, unless it is given to less than the degree of accuracy accepted in the mark scheme, when it gains **no marks**.

Otherwise we require evidence of a correct method for any marks to be awarded.

| Question | Solution | Marks | Total | Comments |
|-------------|--|-------------------|-----------|---|
| 1(a) | chocolate sprinkles | B1 | 1 | 413 |
| (b) | original glazed | B1 | 1 | 217 |
| (c) | 413 – 217 196 (calories) | M1 A1 | 2 | |
| (d) | 307 (calories) | B1 | 1 | |
| (e) | 217, 253, 254, 269, 289, 307, 307, 413 indicate between 269 and 289 279 (calories) | M1 M1 A1 | 3 | correct order from either end as far as the fifth value (allow one error) |
| (f) | 217 + 253 + 254 + 269 + 289 + 307 + 307 + 413 (=2309) their 2309 ÷ 8 288.625 (calories) | M1 M1dep A1 | 3 | Allow one error or omission accept 289 or 288.63 or 288.6 SC2 288 or 288.62 unsupported |
| | Total | | 11 | |
| 2 | Qantas should be at 78 not 7 Lan has been labelled Map | B2 | 2 | B1 for each correctly identified error |
| | Total | | 2 | |
| 3 | tally correct for flowers tally correct for snowman correct Number sold column | B1 B1 B2 | 4 | B1 for 3 correctly completed |
| | Total | | 4 | |
| 4(a) | 1.20 – 0.69 0.51 | M1 A1 | 2 | oe 51p |
| (b) | (=)C5 – B5 | B1 | 1 | oe eg \$c5-\$b5 exclude answers such as 1.99 – 1.65 |
| | Total | | 3 | |

| Question | Solution | Marks | Total | Comments |
|--------------|--|--|----------|---|
| 5 | Wrong Number angle is $\frac{1}{25} \times 360$ or $360 \div 25$ $14(.4)^\circ$ all angles correct angles correctly drawn on Pie Chart sectors correctly labelled | M1 A1 A1 A1ft A1ft | 5 | correct method to find any angle any correct angle may be inferred from Pie Chart if no working shown Ft their 5 angles Ft their 5 angles breakdown = 100.8° , Service = 129.6° , tyres = 43.2° , MOT = 72° allow answers rounded or truncated to nearest degree within 3° on every sector |
| Total | | | 5 | |
| 6(a) | $\frac{5}{25}$ oe $\frac{1}{5}$ | M1 A1 | 2 | SC1 $\frac{4}{5}$ |
| (b) | 1 – their $\frac{1}{5}$ or $\frac{7+9+3+1}{25}$ $\frac{4}{5}$ | M1 A1ft | 2 | oe Oe ft their (a) |
| Total | | | 4 | |
| 7 | $5 + 3 (=8)$ $74.38 + 44.74 + 110.44 + 35 +$ $107.28 (=371.84)$ their $371.84 \div$ their 8 their 46.48×3 139.44 | M1 M1 M1 M1 A1 | 5 | any one item $\div 8$ (any one item $\div 8$) $\times 3$ sums all their part items (must be all 5 parts: $27.8925 + 16.7775 + 41.415 +$ $13.125 + 40.23$) SC4 232.40 SC3 232.4 |
| Total | | | 5 | |

| Question | Solution | Marks | Total | Comments |
|----------------|---|----------|-----------|---|
| 8(a) | scatter diagram suitable scales | B1 B1 | | B1 for at least 3 points plotted correctly (within half a small square) |
| | points plotted correctly | B2 | 4 | |
| (b)(i) | trendline | B1 ft | 1 | |
| (b)(ii) | correct conclusion eg heavier Easter eggs cost more money | B1 ft | 1 | |
| | Total | | 6 | |
| | TOTAL | | 40 | |