IQM4003

LEVEL 4 · SAMPLE ASSESSMENT

INTO QUALIFICATIONS

Mathematics and Statistics for Business

Applied Data Analysis Project

Candidate assessment pack

Assessment
IQM4003 A1

Sample set
2026-S

Status
SAMPLE ASSESSMENT

Release timing
at coursework release

Duration
Not time-limited; centre submission deadline applies

Response length
1,500 words ±10%; tables, charts, workings, references and appendices excluded; embed reproducible software workings and labelled chart outputs in the DOCX appendices (no separate spreadsheet is required)

Total marks
40

Weighting
40% of module

AI condition
Level 2 – AI Planning: planning only; do not use AI to generate assessed analysis, interpretation, evaluation, recommendations or final report content. Acknowledge and reference permitted AI planning use.

Permitted materials
Open-resource coursework. Permitted: the provided business dataset, student-selected supporting evidence and approved digital analysis tools. Permitted calculator: Not applicable to this assessment.

About this sample assessment

SAMPLE ASSESSMENT / 2026-S — Fictional Maple & Main Café is deciding whether staffing should change with weekly customer demand. Use the synthetic dataset below to analyse the relationship between weekly customer visits and weekly sales revenue. Do not claim that visits alone cause revenue.

Instructions for candidates

- The complete synthetic dataset is printed once under Supplied source material and applies to every task above and below.
- State a focused business question, aim and two objectives.
- Describe and check the dataset; identify variables, units, sample size and a limitation.
- Use spreadsheet/approved software to calculate mean, median, range and sample standard deviation (using n−1) for visits and revenue; show formulas or reproducible outputs.
- Create a labelled scatter plot and estimate Pearson correlation and a linear regression of revenue (Y) on visits (X). Interpret slope/intercept and assess model limits.
- Present a clearly labelled time/sequence view and produce a cautious numerical forecast or illustrative estimate for a stated horizon, using an explicit method and assumption. Discuss whether the 12 observations support the forecast, state its limitations and explain how it should be validated on later data. The supplied dataset table appears once in this brief and applies to all six requirements.
- Give a proportionate staffing recommendation, an ethical consideration and one next data collection step.

Supplied source material

Supplied Case Data

Units: Visits are customer transactions; revenue is £ hundreds.

Period	Visits	Revenue (£100s)
1	410	520
2	430	535
3	390	500
4	460	565
5	450	555
6	480	585
7	440	548
8	500	610
9	470	575
10	520	630
11	510	620
12	540	655

Requirement 1

State a focused business question, aim and two objectives.

T1

State a focused business question, aim and two objectives.

Response guidance: Address this requirement in the relevant report/presentation section.

Requirement 2

Describe and check the dataset; identify variables, units, sample size and a limitation.

T2

Describe and check the dataset; identify variables, units, sample size and a limitation.

Response guidance: Address this requirement in the relevant report/presentation section.

Requirement 3

Use spreadsheet/approved software to calculate mean, median, range and sample standard deviation (using n−1/STDEV.S) for visits and revenue; show formulas or reproducible outputs.

T3

Use spreadsheet/approved software to calculate mean, median, range and sample standard deviation (using n−1/STDEV.S) for visits and revenue; show formulas or reproducible outputs.

Response guidance: Address this requirement in the relevant report/presentation section.

Requirement 4

Create a labelled scatter plot and estimate Pearson correlation and a linear regression of revenue (Y) on visits (X). Interpret slope/intercept and assess model limits.

T4

Create a labelled scatter plot and estimate Pearson correlation and a linear regression of revenue (Y) on visits (X). Interpret slope/intercept and assess model limits.

Response guidance: Address this requirement in the relevant report/presentation section.

Requirement 5

Present a clearly labelled time/sequence view and produce a cautious numerical forecast or illustrative estimate for a stated horizon, using an explicit method and assumption. Discuss whether the 12 observations support the forecast, state its limitations and explain how it should be validated on later data.

T5

Present a clearly labelled time/sequence view and produce a cautious numerical forecast or illustrative estimate for a stated horizon, using an explicit method and assumption. Discuss whether the 12 observations support the forecast, state its limitations and explain how it should be validated on later data.

Response guidance: Address this requirement in the relevant report/presentation section.

Requirement 6

Give a proportionate staffing recommendation, an ethical consideration and one next data collection step.

T6

Give a proportionate staffing recommendation, an ethical consideration and one next data collection step.

Response guidance: Address this requirement in the relevant report/presentation section.

Prepare and submit your work

- Business question/context
- Data and method
- Descriptive results with one table and two charts
- Correlation/regression and interpretation
- Limitations, ethics and recommendation
- Conclusion/references/appendix
- Use supplied data and approved spreadsheet software. Include an appendix inside the DOCX with reproducible formulas/outputs and the two labelled charts; no separate XLSX is required. No external source is needed for calculations; cite any external method or business context source used.