IQM3003 A3 Teacher marking reference

Mathematics and Data Handling Component 3 Paper 2 examination synthetic response profiles

This reference supports discussion of the selected exercise extracts. Marks and bands are proposed documentary judgements, subject to human subject review.

Source assessment: IQM3003 Mathematics and Data Handling, Component 3 Paper 2, Sample 2026 (assessment set 2026-S). Bound to the current source files IQM3003_A3_P2_2026-S_Candidate Question Paper.pdf and IQM3003_A3_P2_2026-S_Candidate Answer Booklet.pdf; marking authority is IQM3003_A3_P2_2026-S_Staff Mark Scheme.pdf. These are synthetic scripts for internal teaching and calibration.

Indicative proposed marks against the supplied source mark scheme for the four selected exercise extracts.

Exercise reference indicative marks and evidence

EXTRACT A — 2/3 for Q4(a). The labelled linear minute scale and correct box (5, 8, 11) earn the first two B1s; the maximum whisker is shown at 19 rather than 20, so the whisker B1 is not earned. Feedback: retain the supplied maximum of 20.

EXTRACT B — 2/3 for Q8(b). The response gives $\Sigma fm^2=590$ and substitutes the correct grouped-data variance expression; these earn the two M1s. The standard deviation is 1.77 kg, not 1.9 kg, so A1 is not earned. Feedback: evaluate the square root after subtracting the squared mean.

EXTRACT C — 1/2 for Q14(a). H_0 is correct (B1); the one-sided alternative should be $p>0.10$, not $p<0.10$. Feedback: match the direction to the engineer’s suspicion of an increase.

EXTRACT D — 3/4 for Q23(a). The visible factorisation has numerator $(x-3)(x+3)$ and denominator $(x+3)(x-2)$, earning both M1s; the cancelled form $(x-3)/(x-2)$ earns A1. Only $x=-3$ is excluded, so the B1 for excluding both −3 and 2 is not earned. Feedback: retain every original-denominator restriction after cancellation.

The companion ledger contains the complete script-by-script scoring and item evidence.