

1.1 Data, decisions and accountability: supported rehearsal

Name: _____ Class: _____ Date: _____

Total: 6 marks

Objective

Supported preparation: Distinguish data from information and algorithms from outcomes; Analyse privacy, identity, power and ethics in a real digital system. This is original rehearsal, not completion of the assessed task.

1 Key knowledge and worked examples

Data are recorded values; information gives them contextual meaning. An algorithm maps inputs to outputs under specified rules. A prediction is not a cause. Privacy concerns collection, access, use and retention; power includes who defines the goal and who can challenge a decision.

Original source / task evidence

Original case: a practice recommender stores missing quizzes as zero and assigns easier work. Analyse the mechanism and one remedy.

Separate what is stated from the interpretation.
Data, decisions and accountability

Original case: a practice recommender stores missing quizzes as zero and assigns easier work. Analyse the mechanism and one remedy.

Missingness can arise from absence or failed access rather than low ability. Converting it to zero changes the inferred ability and can restrict opportunity. Distinguish missing from observed zero, investigate causes, allow correction and test outcomes across affected groups. High average accuracy does not establish equal errors.

2 Practice

2.1 For the worked case, identify the evidence and a conclusion it can support. Explain one material limit. [3]

3 Exam-style questions

3.1 The developer proposes collecting family income to explain missing quizzes. Evaluate this response. Give a reasoned answer, evidence or method, and a relevant qualification. [3]

Solutions

2.1 Missingness can arise from absence or failed access rather than low ability. Converting it to zero changes the inferred ability and can restrict opportunity. Distinguish missing from observed zero, investigate causes, allow correction and test outcomes across affected groups. High average accuracy does not establish equal errors. Authored points for identifying relevant evidence, explaining a supported inference and a material limit.

3.1 A proposed variable needs direct relevance, school permission, data minimization and protection. Investigate connection failures and allow missing-data correction first where feasible. More sensitive data do not automatically improve fairness and may create new privacy or exclusion risks. Authored points for a relevant judgement, reason tied to the case and justified qualification or method. Accept a supported alternative.