

3.1 Experimental preparation and data: supported rehearsal

Name: _____ Class: _____ Date: _____ Total: 6 marks

Objective

Supported preparation: Identify variables, sampling and controls in an experiment; Analyse actual data and evaluate a school-approved replication. This is original rehearsal, not completion of the assessed task.

1 Key knowledge and worked examples

Specify the independent variable, dependent measure, allocation, controls and consent before analysis. Standardization reduces avoidable variation; random assignment differs from random sampling. Actual approved replication data must be retained, not replaced by illustrative numbers.

Original source / task evidence

Rehearsal: fictional recall scores are 4, 6, 8 for format A and 3, 4, 5 for B. Calculate means and state what cannot follow from them.

Separate what is stated from the interpretation.
Experimental preparation and data

Rehearsal: fictional recall scores are 4, 6, 8 for format A and 3, 4, 5 for B. Calculate means and state what cannot follow from them.

Mean $A = (4 + 6 + 8) / 3 = 6$ items; mean $B = (3 + 4 + 5) / 3 = 4$ items; difference = 2 items. These means alone do not establish statistical significance, a population effect or a causal design. Inspect variability, allocation and assumptions before choosing analysis.

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 same pupils complete both recall formats. What changes in design and analysis? Give a reasoned answer, evidence or method, and a relevant qualification. [3]

Solutions

2.1 Mean $A=(4+6+8)/3=6$ items; mean $B=(3+4+5)/3=4$ items; difference=2 items. These means alone do not establish statistical significance, a population effect or a causal design. Inspect variability, allocation and assumptions before choosing analysis. Authored points for identifying relevant evidence, explaining a supported inference and a material limit.

3.1 Scores are paired within pupils, so analyse within-person differences with an appropriate paired method and assumptions. Randomize or counterbalance order to reduce sequence effects and use comparable material. Paired design is not random sampling and does not ensure generalization. Authored points for a relevant judgement, reason tied to the case and justified qualification or method. Accept a supported alternative.