Mark scheme

<table>
<tr><th colspan="3">Question</th><th>Answer/Indicative content</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td></td><td></td><td>C Induction</td><td></td><td><u>Examiner's Comments</u>

Answered correctly by over half of the candidates. Some candidates chose option A or D incorrectly</td></tr>
<tr><td></td><td></td><td></td><td>Total</td><td>1</td><td></td></tr>
<tr><td>2</td><td></td><td></td><td>Likely answers: use of standardised procedures; controls; collection of quantifiable data etc.

<table><tr><td colspan="2">3 marks for each way outlined</td></tr><tr><td colspan="2">Clear outline in context</td></tr><tr><td>Clear outline but not in context</td><td>Attempted outline in context</td></tr><tr><td colspan="2">Brief and/or weak attempt (whether in context or not)</td></tr></table>
The candidate has not provided any creditworthy information</td><td>Max 6

3
2

1

0</td><td>Context = friendliness, hand-shaking etc.
Reliable/replicable (due to standardisation) Controlling for extraneous variables Hypothesis testing Manipulation of variables (IV)/operationalizing variables
Cause and effect
Falsification
Objectivity – data free from misinterpretation
Induction/deduction
Quantitative/quantifiable
Use of lab experiments
1 mark for identifying a feature of science.

If two ways are given that cover the same point, credit the best one only.

<u>Examiner's Comments</u>

The responses for this question covered the full range of the mark band. Most responses were able to at least identify one or two features of science. Better responses made clear how features of scientific research support psychology as a science. Common features outlined included quantitative data, objective data, control of extraneous variables, manipulation of the independent variable, standardised procedure, or reliability. These types of responses then went on to illustrate their point with contextual details from their research. Responses that didn't score so well often identified a feature that</td></tr>
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					made their study scientific but did not put this into the context of their study. In addition, many responses attempted too many features of science within one point without linking them or providing any sort of explanation as to how this feature of science could be seen within their study.
			Total	**6**	
3			D	**1**	
			Total	**1**	
4			**What is meant by induction in psychological research?** 1 mark for D – where observations generate a likely theory.	**1** **AO1 1b (r)**	
			Total	**1**	
5	a		**Outline what is meant by each of the following features of science and state how they apply to this experiment into perception.** **Cause and effect** 1 AO1 mark for understanding the causal nature of one thing affecting another. 1 AO1 additional mark for use of relevant terms, e.g. manipulation of IV, measurement of DV, control of other variables. 1 AO2 mark for application to the study, e.g. identifying direction of causation (first set of images affect perception of ambiguous image), identification of IV (where primed with animal pictures or pictures of kitchen items). Other appropriate responses should be credited.	**3** **2 AO1 1b** **1 AO2 b**	
	b		**Objectivity** 1 AO1 mark for understanding that objectivity relates to fact / shared knowledge / unbiased viewpoint. 1 AO1 additional mark for elaboration	**3** **2 AO1 1b** **1 AO2 b**	

			of the point, e.g. comparing objectivity with subjectivity, the value of objectivity. 1 AO2 mark for application to the study, e.g. there could be no disagreement on what participant stated, use of imagery allows for publically observable material. Other appropriate responses should be credited.		
			Total	**6**	
6			**Which feature of science refers to the importance of being able to refute a psychologist's claim?** 1 mark for C – Falsification.	**1** **AO1 1b**	
			Total	**1**	
7	a		Hypothesis testing refers to predictions that are made about the likely outcomes of research to be conducted. The alternative hypothesis predicts that there will be an effect of one variable (the IV) on another (the DV). In this study, the prediction that being stood up or sat down (the IV) will effect performance in maths test scores (the DV). The null hypothesis predicts that there will not be an effect – i.e. in this study that being stood up or sat down will have no effect on performance in maths test scores (or that any differences found will be due to chance) Clear outline of what hypothesis testing involves in context Clear outline of what hypothesis testing involves but not in context Attempt to outline of what hypothesis testing involves, whether in context or not The candidate has not provided any creditworthy information	**Max 3** **3** **2** **1** **0**	Context = 'stand' / 'standing up', 'maths test', 'concentration' etc -*Clear outline* could include reference to … alternative (or 'experimental' or 'research') hypothesis and null **OR** the effect of the IV on the DV **<u>Examiner's Comments</u>** This proved to be a challenging question with some candidates simply making comments about testing in general. The best responses were those that referred to the predictions made by both the alternative and null hypothesis in context. Really sophisticated responses went on to explain how researchers try to obtain data that enables the null hypothesis to be rejected so that the alternative hypothesis can be upheld.
	b		Manipulation of variables in an experiment refers to how the independent variable (IV) is operationalised to assess the effects on the dependent variable (DV) that is measured. In this study the IV is how	**Max 3**	Context = 'stand' / 'standing up', 'maths test', 'concentration' etc **<u>Examiner's Comments</u>**

			pupils were positioned whilst taking the maths test. It was operationalised as being stood up or sat down whilst taking the test. Clear outline of what manipulation of variables involves (with details of how the IV was operationalised included) in context clear outline of what manipulation of variables involves but not in context Attempt to outline of what manipulation of variables involves whether in context or not The candidate has not provided any creditworthy information	**3** **2** **1** **0**	The best responses here first explained the principle of studying cause-and-effect through changing one (independent) variable to see if it has an effect on another (dependent variable). They then went on to identify what the independent variable in the study was and then outlined how it had been operationalised across the two conditions of 'standing-up' compared to 'sitting-down'. Some candidates mixed up the independent with the dependent variable. This reveals the importance of understanding key terms – here 'operationalise' and 'variables' in the context of conducting research.
			Total	**6**	
8			D	**1**	**Examiner's Comments** Choices made by candidates in response to this question revealed some confusion between inductive and deductive reasoning.
			Total	**1**	
9			C	1	**Examiner's Comments** Mostly correct answers
			Total	**1**	
10			B	1	**Examiner's Comments** This proved to be a challenging question and shows the importance of teaching terms and concepts well
			Total	**1**	