GCE A LEVEL MARKING SCHEME

SUMMER 2017

A LEVEL (NEW)
PSYCHOLOGY - COMPONENT 2
A290U20-1

INTRODUCTION

This marking scheme was used by WJEC for the 2017 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

A LEVEL PSYCHOLOGY - COMPONENT 2

SUMMER 2017 MARK SCHEME

Question	AO1	AO2	AO3	TOTAL
1			3	3
2	4			4
3	2			2
4	6		6	12
5	6		12	18
6		12		12
7		12	6	18
8		15		15
9	2	11	3	16
TOTAL	20	50	30	100

MARK SCHEME

1. Explain **one** strength of conducting research on-line. **[3]**

Credit **could** be given for:

- Ability to access participants all over the world comparatively easily (compared to past).
- Ability to access large numbers of participants more easily than if using traditional face to face or questionnaire methods.
- Cost effective as on-line questionnaires can be quickly constructed, distributed for free and results analysed using software that has minimal costs; traditionally there were printing costs, posting costs and payments required to people who input data and analysed results from 'pen & paper' questionnaires.
- Any other appropriate content.

Marks	AO3
3	• Strength is clearly explained and reasonably analysed.
2	• Strength is clearly explained and basically analysed.
1	• Strength is identified.
0	• Inappropriate answer given • No response attempted

2. Describe the main features of a content analysis. **[4]**

Credit **could** be given for:

- Analyses content in a systematic manner, using behavioural categories.
- Can be used to analyse primary and secondary sources.
- An indirect observational method of artefacts.
- Can be used to produce both quantitative and qualitative data.
- Any other appropriate content.

Marks	AO1
3-4	• Thorough description of the main features of a content analysis. • Good use of appropriate terminology. • There is depth to the material used.
1-2	• Basic description of the main features of a content analysis. **OR** • No more than two features identified. • Some terminology is evident. • May be list like.
0	• Inappropriate answer given. • No response attempted.

3. Explain how you would calculate the median value in a set of data. **[2]**

Credit **could** be given for:

- Placing the values of a data set in rank order and, if there is an odd number of scores just select the middle value. However if there is an even number of scores, and the two middle values are different, you can add the two middle values together and divide by two. [2 marks].
- Select the middle value from the data set. [1 mark].
- Any other appropriate content.

N.B. Just stating what the median is 'the middle value in a rank ordered data set' does not receive credit. The answer must explain the process of calculating the median.

Marks	AO1
2	• Complete description given which would allow the median to be calculated correctly.
1	• Partial description, which would not allow the median to be calculated correctly but some stages/aspect of the calculation is correct.
0	• Inappropriate answer given. • No response attempted.

4. (a) Describe what is meant by a cross-sectional study. **[3]**

Credit **could** be given for:

Key elements of a cross-sectional study:

- Assessed at a single point in time.
- Can allow researchers to observe numerous factors (e.g. age, gender).
- Doesn't involve the manipulation of variables.
- Frequently used to assess the prevalence in a given population.
- Examples of cross-sectional studies.
- Any other appropriate content.

Marks	AO1
3	• Reasonable description.
2	• Basic description.
1	• Superficial description.
0	• Inappropriate answer given. • No response attempted.

(b) Describe what is meant by a longitudinal study. **[3]**

Credit **could** be given for:

Key elements of a longitudinal study:
- Assessed over a prolonged period of time.
- Usually used to show changes as people age.
- Is usually observational in nature.
- Examples of longitudinal studies.

- Any other appropriate content.

Marks	**AO1**
3	• Reasonable description.
2	• Basic description.
1	• Superficial description.
0	• Inappropriate answer given. • No response attempted.

(c) Justify why cross-sectional studies might be more appropriate than longitudinal studies when conducting research in psychology. **[6]**

Credit **could** be given for:

Comparison of the strengths of cross-sectional studies vs. weaknesses of longitudinal studies:
- Sample Attrition more likely to occur in longitudinal than cross-sectional research.
- Cross-sectional studies are likely to be cheaper to conduct than longitudinal studies.
- Data is collected quickly from a cross-sectional study, whereas it can take a long time to collect all the data from a longitudinal study.
- Participants are less likely to suffer from demand characteristics in a cross-sectional study because they take a 'snapshot' of behaviour, whilst in longitudinal studies participants are likely to be repeatedly exposed to research materials.

- Any other appropriate content

Marks	**AO3**
5 – 6	• A reasonable discussion of why cross-sectional studies might be more appropriate than longitudinal studies. • Depth and range but not in equal measure. • Structure is logical.
3-4	• A basic discussion of why cross-sectional studies might be more appropriate than longitudinal studies. • Depth or range. • Structure is reasonable.
1-2	• A superficial discussion of why cross-sectional studies might be more appropriate than longitudinal studies. • Answer lacks structure.
0	• Inappropriate answer given. • No response attempted.

5. (a) Describe the methodology used by Kohlberg in his 1968 research '*The child as a moral philosopher*.' **[3]**

Credit **could** be given for:

Methodology:
- Longitudinal study which followed the development of the same group of boys for 12 years.
- Use of interviews to assess moral reasoning; including the use of moral dilemmas.
- Cross-cultural comparison.
- Any other appropriate description of the methodology - although it must be cited in the original article.

Marks	**AO1**
3	• Reasonable description.
2	• Basic description.
1	• Superficial description.
0	• Inappropriate answer given. • No response attempted.

(b) Describe the sample used by Kohlberg in his 1968 research '*The child as a moral philosopher*.' **[3]**

Credit **could** be given for:

Sample:
- 75 American boys who started the research between the ages of 10 and 16.
- The boys were 22-28 at the end of the research.
- Additional sample from Great Britain, Canada, Mexico, Turkey and Taiwan were interviewed by Kohlberg or a colleague of Kohlberg.
- Any other appropriate description of the sample - although it must be cited in the original article.

Marks	**AO1**
3	• Reasonable description.
2	• Basic description.
1	• Superficial description.
0	• Inappropriate answer given. • No response attempted.

(c) Discuss the validity and ethical issues raised by Kohlberg's (1968) research '*The child as a moral philosopher*.' **[12]**

Credit **could** be given for:

Validity issues	Ethical Issues
• Use of hypothetical moral dilemmas. • Investigator bias in interpreting responses. • Population validity: use of all male sampling group. • Issues resulting from use of interview.	• Use of children • Issues of informed consent • Right to withdraw • Use of hypothetical moral dilemmas

- Any other appropriate content

Marks	**AO3**
10-12	• Thorough discussion of both validity and ethical issues. • Evaluative comments are evidently relevant to the context. • Structure is logical throughout. • Depth and range included. • An appropriate conclusion is reached based on evidence presented.
7-9	• Reasonable discussion of both validity and ethical issues. • Evaluative comments show some relevant to the context. • Structure is mostly logical. • Depth and range, but not in equal measure. • A reasonable conclusion is reached based on evidence presented.
4-6	• Basic evaluation discussion of both validity and ethical issues. OR • Thorough discussion of either validity or ethical issues. • Evaluative comments are generic and not appropriately contextualised. • Structure is reasonable. • Depth or range. • A basic conclusion is reached.
1-3	• Superficial discussion of both validity and ethical issues. OR • Reasonable discussion of either validity or ethical issues. • Evaluative comments are superficial. • Answer lacks structure. • No conclusion
0	• Inappropriate answer given • No response attempted

6. (a) State the operationalised co-variables that you used in your correlational research. **[2]**

Exemplar statement of co-variables:

- Co-variable 1 was reaction time (milliseconds) and co-variable 2 was age (years). [2 marks]
- The co-variables were operationalised as follows: Age was measured in years and reaction time was measured in seconds (to 2 decimal places). [2 marks]
- Co-variable 1 = Reaction time (seconds); Co-variable 2 = Age. [1 mark]

N.B. Candidates get no credit for just noting the co-variables are 'age' and 'reaction times'. These are not operationalised (as specified in the question) and could just be identified from this question.

Marks	**AO2**
2	• Both co-variables are clearly stated and operationalised.
1	• One co-variable is clearly stated and operationalised.
0	• Notes the co-variables are 'age' and 'reaction times'. • Inappropriate answer given. • No response attempted.

(b) With reference to your own correlational research, explain how you ensured that your research was ethical. **[6]**

Credit **could** be given for:

- Consideration of working with vulnerable individuals (e.g. children or elderly) – gain additional consent from appropriate responsible adult.
- Following ethical guidelines (e.g. BPS, ATP): a specific guideline might be applied to their research.
- Specific ethical issues, dealt with appropriately: confidentiality - data regarding age and reaction times stored securely; individual participants given numbers rather than recording their names with the results. Valid consent – participants and/or their representatives are fully aware of the real aim and procedure of the research before being asked for written consent and participating in the research.
- Any other appropriate content.

Marks	**AO2**
5-6	• Explanation of the ways of dealing with ethical issues used in their correlation is appropriate and detailed. • Application to the correlation between reaction times and age is clearly evident. • There is an appropriate balance of depth and range.
3-4	• Explanation of the ways of dealing with ethical issues used in their correlation is appropriate and reasonably detailed. • Application to the correlation between reaction times and age is reasonably evident. • There is evidence of depth and/or range. **OR** • Explanation of the ways of dealing with ethical issues used in their correlation is appropriate and detailed. • Application to the correlation between reaction times is limited and/or omitted.
1-2	• Explanation of the ways of dealing with ethical issues used in their correlation is appropriate, but is superficial. • Application to the correlation between reaction times is limited and/or omitted. • There is little depth or range evident.
0	• Inappropriate answer given. • No response attempted.

(c) Identify and fully justify the inferential statistical test that you used when analysing the data collected in your correlation. **[4]**

There will potentially be substantial differences that reflect the research choices made by each learner; credit the inferential statistical test choice if it is potentially an appropriate way of analysing the data collected in their observation of gender differences in food choice.

Exemplar answers:

- A Spearman's Rank Order correlation was selected. This is appropriate as it assesses the correlation between age (years) and reaction times (seconds).These two co-variables, age and reaction time, are related data. Also, both the age and reaction time are examples of ratio data.[4 marks].
- Pearson's *r* can also be credited.
- Any other appropriate content.

Marks	**AO2**
4	• Inferential statistical test identified. • All of the following elements included in the justification with a link to the research: • Test of difference/correlation . • Level of measurement . • Related data.
3	• Inferential statistical test identified. • Two of the following elements included in the justification with a link to the research:. • Test of difference/correlation. • Level of measurement • Related data.
2	• Inferential statistical test identified. • One of the following elements included in the justification with a link to the research:. • Test of difference/correlation. • Level of measurement. • Related data. **OR** • Inferential statistical test identified. • All of the following elements included in the justification with no link to the research: • Test of difference/correlation . • Level of measurement . • Related data.
1	• Inferential statistical test identified. • No justification of the inferential statistical test chosen. **OR** • Incorrect justification of the inferential statistical test chosen.
0	• Inferential statistical test not identifiable. • Inappropriate answer given. • No response attempted.

7. (a) State the operationalised alternative hypothesis for your observation. **[3]**

Exemplar answers:

- There will be a difference in the frequency of males and females who choose to purchase a piece of fruit or a cookie as a break time snack. [3 marks].
- More boys will buy chips from the school canteen than girls. [2 marks]
- There will be a difference in the gender of people purchasing sweets at a shop. [1 mark].

N.B. Candidates get no credit for stating a null hypothesis.

Marks	AO2
3	• Full alternative hypothesis (which is appropriate for this investigation) given with both variables clearly operationalised.
2	• Full alternative hypothesis (which is appropriate for this investigation) given with only one variable clearly operationalised.
1	• Basic alternative hypothesis (which is appropriate for this investigation) given but neither variable is clearly operationalised.
0	• Null hypothesis given. • Inappropriate answer given. • No response attempted.

(b) (i) Describe the observational sampling technique that you used in your observation. **[2]**

Credit **could** be given for:

- Event Sampling: Observed and recorded gender (male or female) of all of the students who purchased chips in the school canteen.
- Time sampling: (either time point or time interval sampling): Time point – Observed and recorded the gender of customer purchasing sweets every 60 seconds; Time interval - Observed and recorded the gender of every customer purchasing sweets in five minute intervals.
- Any other appropriate observational sampling technique.

N.B. The question specifies observational sampling technique, so credit cannot be given to discussion of a sampling technique that selects participants for participation in research.

Marks	AO2
2	• Appropriate observational sampling technique is identified and described appropriately.
1	• Appropriate observational sampling technique is identified, but not described. **OR** • Appropriate observational sampling technique is identified, but not described appropriately.
0	• Inappropriate answer given. • No response attempted.

(ii) Explain why you chose to use this observational sampling technique in your observation. **[3]**

Credit **could** be given for:

- Strengths of identified observational sampling technique.
- Weaknesses of alternative observational sampling techniques.

- Any other appropriate content.

N.B. Explanation must be relevant to observational sampling technique identified in (b)(i); if not, credit awarded to (b) (i) and not to (b) (ii).

Marks	**AO2**
3	• Thorough explanation given in relation to a strength of technique used and/or weakness of other techniques. • There is a logical application of the observational sampling method used for the purpose of their investigation.
2	• Reasonable explanation given in relation to the strength of technique used and/or weakness of other techniques. • Lacks some application of the sampling method used for the purpose of their investigation.
1	• Basic explanation given in relation to a strength of technique used or a weakness of other techniques only. • No application to the purpose of their investigation (i.e. a generic reason).
0	• Inappropriate answer given. • No response attempted.

(c) With reference to your own observation, explain how you ensured your research was valid. **[4]**

Credit **could** be given for:

- Location of observation: observation conducted in an ecologically valid way as the behaviour of real students was observed in a place where students normally buy sweets.
- Description of observational sampling technique used: any aspect of the technique used that would promote validity can receive credit here, even if previously (or not) discussed in answer to b (ii).
- Participant selection: use of 'real' customers.
- Use of appropriate behavioural categories used in observation: following the interview of various sixth-form students, the different types of food usually sold in the coffee shop were recorded and then formed the basis of the behavioural categories used in the observation.

- Any other appropriate content.

Marks	**AO2**
3-4	• Explanation of the way(s) of dealing with validity issues used in their observation is appropriately detailed. • Application to the observation between gender and food choice is clearly evident. • Depth or range is evident. • Good use of appropriate terminology.
1-2	• Explanation of the way(s) of dealing with validity issues used in their observation is appropriate but basic in detail. • Application to the observation between gender and food choice is reasonably evident. • Depth or range is evident. • Some use of appropriate terminology.
0	• Inappropriate answer given. • No response attempted.

(d) Suggest **two** ways in which your own observational research could have been improved. **[6]**

Credit **could** be given for:

- Changes to characteristics of sample (e.g. greater/smaller age range).
- Changes to sampling method (e.g. change from opportunity to stratified to ensure greater representativeness).
- Improving the ethical aspects (e.g. ensuring ethical guidelines were more strictly adhered to).
- Changes to observational sampling technique (e.g. use a time sampling technique rather than event sampling.)
- Changes to procedural detail (e.g.ensure a nutritionist confirms the list of 'healthy' and 'unhealthy' food).
- Any other appropriate content.

Marks	**AO3**
5-6	• Two ways of improving the investigation are suggested. • Thorough analysis of why these suggestions would improve the investigation. • The structure is logical. • Good use of appropriate terminology.
3-4	• Two ways of improving the investigation are suggested. • Reasonable analysis of why these suggestions would improve the investigation. **OR** • There may be only one way of improving the investigation identified, however analysis is detailed. • The structure is mostly logical. • Some appropriate terminology is used.
1-2	• Two ways of improving the investigation are suggested but not analysed. **OR** • Only one way of improving the investigation is identified and analysed in a basic way. • Answer lacks structure. • Little use of appropriate terminology.
0	• Inappropriate answer given. • No response attempted.

8. A developmental psychologist was concerned about the amount time pensioners spent alone each day. He decided to conduct a semi-structured interview with pensioners who were shopping alone at a local supermarket. One of the questions the developmental psychologist asked each participant was '*On a scale of 0 (never) to 10 (all the time), rate how lonely you feel*'. The results to this question are displayed in the table below:

Pensioner	1	2	3	4	5	6	7	8	9	10
Loneliness rating (0-10)	3	4	5	4	6	10	3	0	5	5

(a) Explain **two** strengths of using a semi-structured interview in this research. **[2+2]**

Credit could be given for:

Strength:

- Allows the researcher more flexibility in their interview than a structured interview; the researcher can ask follow-up questions if the pensioner says something interesting.
- Researcher is still able to ensure that all pensioners are asked some questions which are all the same, which may be the case with an unstructured interview.
- Any other appropriate strength.

Marks	**AO2**
2	• Appropriate strength, linked to this research.
1	• Appropriate strength, not linked to this research.
0	• Inappropriate answer given. • No response attempted.

(b) Explain why the question '*On a scale of 0 (never) to 10 (all the time), rate how lonely you feel*.' should produce quantitative data. **[2]**

Credit could be given for:

- Identification of key words such as “scale” or phrases such as “0 to 10” suggest the question is eliciting a numerical response, ergo the content of the answer should be producing quantitative data.
- The question is quite ‘closed’; so is more likely to produce quantitative data.

Any other appropriate content.

Marks	AO2
2	• Appropriate explanation clearly linked to this research.
1	• Appropriate explanation not clearly linked to this research. **OR** • Brief identification of an appropriate explanation that has been linked to this research.
0	• Inappropriate answer given. • No response attempted.

(c) Suggest **one** question that could be used in this research that could produce qualitative data. **[2]**

Credit could be given for:

- Appropriately phrased question that would produce qualitative data in the response given by the participant

Exemplar answers:

- Why have you given yourself this loneliness rating? [2 marks]
- Do you do anything to reduce your loneliness? [1 mark]

Any other appropriate content

N.B. ‘Questions’ do not need to have a ? to receive credit:

- Tell us what strategies you use to reduce your loneliness. [2 marks]

Marks	AO2
2	• Clear, appropriate question that would produce qualitative data and clearly linked to this research.
1	• Reasonable, appropriate question that would produce qualitative data and has some link to this research.
0	• Inappropriate answer given. • No response attempted.

(d) The total of the loneliness ratings given by the ten pensioners was 45. State the mean of the loneliness ratings. **[1]**

Credit could be given for: • 45 / 10 = 4.5 • 3+4+5+4+6+10+3+0+5+5= 45/10 = 4.5 • 4.5 Any other appropriate content.	
Marks	**AO2**
1	• Appropriate identification of correct mean.
0	• Inappropriate answer given. • No response attempted.

(e) Explain why the mode might be an appropriate measure of central tendency for describing these loneliness ratings. **[2]**

Credit could be given for: • Appropriate strengths of a modal score. Exemplar answers • The mean 4.5 did not appear in the original set of loneliness ratings, whereas the modal value (5) is definitely a value that has occurred in the loneliness ratings. [2 marks] • The modal value is not affected by anomalous loneliness ratings. [1 mark] • The modal value is always found in the data set, whereas a mean score might produce a 'nonsense' value such as 2.4 children. [1 mark] Any other appropriate content.	
Marks	**AO2**
2	• Appropriate explanation clearly linked to this research.
1	• Appropriate explanation not clearly linked to this research. **OR** • Brief identification of an appropriate explanation that has been linked to this research.
0	• Inappropriate answer given. • No response attempted.

(f) (i) Identify **one** method, other than a semi-structured interview, that could be used by the developmental psychologist to investigate loneliness in pensioners. **[1]**

Credit could be given for: • Case study • Questionnaire Any other appropriate content N.B. Only identification required to achieve credit.	
Marks	**AO2**
1	• Appropriate method identified.
0	• Inappropriate answer given. • No response attempted.

(ii) Explain why the method identified in f (i) would be appropriate in this research. **[3]**

Exemplar answer:

- (ii) The psychologist should use a case study as it would allow him to gather detailed information about the pensioners' loneliness. He would be able to gather detailed qualitative and quantitative data using interviews, questionnaires and observations regarding how often the pensioner was alone, how much time the pensioner spent with family or friends; what groups or societies the pensioners attended; what barriers the pensioner had in reducing loneliness. This would allow him to describe his findings in a case study, providing rich detail about this pensioner's experience of loneliness and offering a first person perspective on loneliness in pensioners. [3 marks]

Marks	AO2
3	Thorough explanation of the method with clear links to the research.
2	Reasonable explanation of the method with clear links to the research. **OR** Thorough explanation of the method with a link to the research.
1	Reasonable explanation of the method with no links to the research. **OR** Superficial and/or muddled explanation of the method with a link to the research.
0	Inappropriate answer given. No response attempted.

9. A psychologist investigated if the reading confidence of primary school children could be improved if they routinely read to a therapy dog. In September, the psychologist asked two teachers to rate the reading confidence levels of the 62 children in their classes. The teachers rated the children as having low, medium or high reading confidence. The psychologist used stratified sampling to select 10 children. These children spent 30 minutes per week reading aloud to a therapy dog. At the end of March, the teachers rated the reading confidence of the children. The psychologist then compared their reading confidence ratings to investigate if there had been any change. The raw data recorded by the researcher was as follows:

Name of child	Sex	Reading Confidence Rating in September	Reading Confidence rating in March
Rachel D.	Female	Medium	High
Lois B.	Female	Low	High
Robert W.	Male	Low	Medium
Maisie M.	Female	Medium	High
Frances H.	Female	High	High
Andy F.	Male	Medium	Low
Mohamed H.	Male	Low	Medium
Maryam J.	Female	High	High
James B.	Male	Low	High
Sam H.	Male	Medium	High

(a) (i) Outline is meant by the term 'target population'. **[2]**

Exemplar answers:

- A target population is the group of individuals a researcher is interested in, such as primary school children in the UK. [2 marks].
- A target population is everyone in the group of individuals that the researcher wants to investigate; if a sample is representative we should be able to generalise from the sample to the target population. [2 marks]
- The group the researcher is investigating. [1 mark]
- Any other appropriate content.

Marks	AO1
2	• Appropriate, accurate description of term 'target population'.
1	• Partially accurate description of term 'target population'.
0	• Inappropriate answer given. • No response attempted.

(ii) Identify the target population in this research. **[1]**

Credit **could** be given for: • Primary school children. • Any other appropriate content. N.B. 'Children' is too vague to receive credit	
Marks	**AO2**
1	• Appropriate identification of correct range.
0	• Inappropriate answer given. • No response attempted.

(b) Explain how the psychologist might have selected the 10 children using a stratified sampling technique. **[2]**

Exemplar answers: • The researchers should investigate to see how the school is stratified for features such as gender, age, and reading confidence of the children at the school. Once subdivided into different strata, the researcher would randomly select from each strata, until they had a sample that reflected the features of the school. [2 marks] • Divide the school into groups and then select children from these groups for the sample. [1 mark] • Any other appropriate content.	
Marks	**AO2**
2	• Explanation of how stratified sampling could be used in this research is described well.
1	• Explanation of how stratified sampling could be used in this research is described reasonably well.
0	• Inappropriate answer given. • No response attempted.

(c) (i) Describe **one** issue of internal reliability that may have occurred in this research. **[2]**

Exemplar answers:
- There are two teachers that are being used to rate the children's reading confidence abilities; if these two teachers are not rating in the same way and therefore being consistent in their ratings this would be an issue of internal reliability. [2 marks]
- Two different teachers are rating the reading confidence. [1 mark]
- Any other appropriate content.

Marks	AO2
2	• Appropriate issue of reliability in this research is described well.
1	• Appropriate issue of reliability in this research is described reasonably well.
0	• Inappropriate answer given • No response attempted.

(ii) Explain how this issue of reliability identified in (c) (i) could be assessed. **[3]**

Credit **could** be given for:
- Explanation involving inter-rater.
- Explanation involving split-half.

Exemplar answers:
- The two teachers could assess the reading confidence of the same 10 children. The two sets of reading confidence ratings could then be correlated. If there was a strong positive correlation between the two teacher's ratings, then they could be said to have inter-rater reliability. [3 marks]
- The teacher's scores could be correlated and if they matched they would be reliable. [1 mark]
- Any other appropriate content.

Marks	AO2
3	• Detailed explanation of how the issue of reliability could be assessed with clear links to the research.
2	• Reasonable explanation of how the issue of reliability could be assessed with clear links to the research. **OR** • Detailed explanation of how the issue of reliability could be assessed with a link to the research.
1	• Reasonable explanation of how the issue of reliability could be assessed with no links to the research. **OR** • Superficial and/or muddled explanation of how the issue of reliability could be assessed with a link to the research.
0	• Inappropriate answer given. • No response attempted.

(d) The researcher analyses the data using a Sign test. The observed (calculated value) of *s* was 1. With reference to table below, explain if the researcher should accept or reject their hypothesis that 'The reading confidence of a child will increase after six months of reading to a therapy dog', using a probability value of 5%. **[3]**

Critical values for a Sign test

	Level of significance for a directional (one-tailed) test		
	0.10	**0.05**	**0.25**
	Level of significance for a non-directional (two-tailed) test		
N	**0.20**	**0.10**	**0.05**
8	1	1	0
9	2	1	1
10	2	1	1

Observed (calculated) value of s is significant at a given level, if it is equal to or less than the critical value.

Credit **could** be given for:

- Identifying that the researcher should accept the hypothesis. [1mark]

Detailed = All of the following elements:

- Identifying N as 8.
- Identifying 'hypothesis' as being directional and hence a one-tailed level of significance should be used.
- Identifying 5% as 0.05

Reasonable = 2 of the 3 above elements. Exemplar answers:

- The researcher should accept their hypothesis as the observed value of 1 is equal to the critical value is 1 (for a one-tailed test at p=0.05, where N =8). [3 marks].
- The hypothesis should be accepted as the observed value is equal to or less than the critical value. [2 marks]
- The hypothesis should be accepted. [1 mark]
- Any other appropriate content.

N.B. Although learners may cite p=0.05 in their answer, this would not receive credit as it is stated in the question.

Marks	**AO3**
3	• Identifies that the hypothesis should be accepted. • Detailed explanation of why the hypothesis should be accepted with clear links to the critical values table.
2	• Identifies that the hypothesis should be accepted. • Reasonable explanation of why the hypothesis should be accepted with clear links to the critical values table.
1	• Identifies that the hypothesis should be accepted. **OR** • Identifies that the hypothesis should be accepted. • Superficial and/or muddled explanation of why the hypothesis should be accepted with a link to the critical values table.
0	• Inappropriate answer given. • No response attempted.

(e) Identify and explain **one** ethical issue that is evident in this research. **[3]**

Credit **could** be given for: • Working with animals, i.e. use of therapy dogs. • Use of a vulnerable population i.e. use of children. • Valid consent, i.e. no consent from parent/guardian. • Any other appropriate content.	
Marks	**AO2**
3	• Appropriate ethical issue identified. • Detailed explanation of the ethical issue with clear links to the research.
2	• Appropriate ethical issue identified. • Reasonable explanation of the ethical issue with clear links to the research. **OR** • Detailed explanation of the ethical issue with a link to the research.
1	• Appropriate ethical issue identified. • Muddled explanation of ethical issue. • Few or no links to the research.
0	• Inappropriate answer given. • No response attempted.