



GCSE PSYCHOLOGY 8182/1

Paper 1 Cognition and Behaviour

Mark scheme

June 2025

Version: 1.0 Final



Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

Further copies of this mark scheme are available from aqa.org.uk

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Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Possible content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the possible content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Examiners are reminded that AO1 and AO2 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO1/AO2), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.

Section A**Memory**

01	Which one of the following statements is not a feature of the multi-store model of memory? Shade one box. [1 mark]
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Marks for this question: AO1 – 1 mark

Answer – D (There are four long-term memory stores.)

02	The multi-store model of memory has been criticised. Briefly evaluate the multi-store model of memory. [2 marks]
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Marks for this question: AO3 – 2 marks

Up to **2 marks** for relevant evaluation.

2 marks: a clear and accurate evaluation.

1 mark: a limited or muddled evaluation.

Possible content

- The multi-store model of memory says that information must be rehearsed to enter the long-term store. This does not explain how you can remember some information that you have not practised or rehearsed.
- The multi-store model has been criticised for being oversimplified. For example, it states we have one single long-term memory store. However, other research evidence has shown that there are several types of long-term memory; procedural, episodic and semantic.
- There is research evidence to support the idea that there are distinct sensory, short-term and long-term memory stores. Research shows that sensory, short-term and long-term memory are usually encoded in different forms and also differ in their duration and capacity.

Credit other relevant evaluations.

03	What is meant by 'retrieval' as a process of memory?	[2 marks]
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Marks for this question: AO1 – 2 marks

Up to **2 marks** for definition of retrieval.

2 marks: a clear and accurate definition.

1 mark: a limited or muddled definition.

Possible content

- Recovering information from a memory store.

Credit other relevant content.

NOTE: To be considered clear and detailed, reference to the concept of 'recovering information' **AND** 'from a memory store' must be made.

NOTE: Where the words 'retrieval', 'retrieved' or 'retrieving' are used as part of the answer and are **not** defined/explained (e.g. 'Retrieving information from a memory store'), this will reduce the clarity of the answer.

NOTE: 'Recall' and 'remembering' can be accepted as a reference to the concept of 'recovering information' **BUT** 'to remember' is not creditworthy unless it is clear that the direction of the information being retrieved is from a memory store.

Examples

'To remember from long term memory' (2 marks)

'To remember from the brain' (1 mark)

'To remember things' (0 marks) BUT 'remembering things' (1 mark)

04.1	Identify the independent variable and the dependent variable in this study.	[2 marks]
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Marks for this question AO2 – 2 marks

1 mark for independent variable.

- The number of lists participants were given to learn.
- Whether participants were asked to learn one or two word lists.
- Whether participants were asked to learn 25 or 50 words.
- The number of words participants were given to learn.

NOTE: Only identifying the IV from one condition (e.g. 'Participants were asked to learn 25 words') is not creditworthy.

PLUS

1 mark for dependent variable.

- The number of words correctly recalled.
- The number of words correctly recalled from the first list.
- The number of objects correctly recalled.

Credit other relevant wording.

NOTE: Only credit the dependent variable if it states 'correctly recalled' **AND/OR** 'recalled from list one'.

NOTE: Dependent variables that are addressing 'words recalled from the second list' or 'lists' (plural) are not creditworthy.

04.2	Different factors can affect the accuracy of memory. Which factor did the researcher investigate in this study? Shade one box. [1 mark]
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Marks for this question: AO1 – 1 mark

Answer – C (Interference)

04.3	Identify one extraneous variable that could have affected the results of this study. Outline how the researcher could have controlled the extraneous variable you have identified. [2 marks]
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Marks for this question AO2 – 2 marks

1 mark for relevant extraneous variable.

Possible content

- How familiar the words were to different participants.
- How long participants were given to learn each list.
- The type of font used in each word list.
- The environment in which learning took place.

Accept other creditworthy answers such as participant variables.

PLUS

1 mark for outline.

Possible content

- The researcher could have used common words that all participants would be familiar with: for example, pencil, phone, bed.
- The researcher should have given participants the same amount of time to learn each word list.
- The researcher should have presented all words using the same font.
- The researcher could test all participants in the same environment: for example, in the same room.

Credit other relevant content.

NOTE: If the extraneous variable is embedded within the outline this can still be creditworthy.

04.4	Calculate the ratio of the total number of objects correctly recalled in Group A compared to Group B . Write this ratio in its simplest form. [2 marks]
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Marks for this question AO2 – 2 marks

2 marks for correct ratio in its simplest form.

9:7

1 mark for the correct ratio but not in its simplest form.

18:14 or equivalent (e.g. 180:140)

05	Outline one type of long-term memory. Identify an example of this type of long-term memory from the conversation between Aleksy and Taaliah. Justify your answer. [4 marks]
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Marks for this question: AO1 – 2 marks and AO2 – 2 marks

Level	Marks	Description
2 Clear	3–4	AO1: Clear and accurate knowledge of one type of long-term memory with some detail. AO2: Clear and accurate application of knowledge and understanding of one type of long-term memory to Aleksy and Taaliah's conversation. Justification is clear and accurate. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
1 Basic	1–2	AO1: Limited or muddled knowledge of one type of long-term memory is present. AO2: Limited or muddled application of knowledge and understanding of one type of long-term memory to Aleksy and Taaliah's conversation. Justification may be present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

AO1

- Episodic memories are recollections of personal experiences or events and may include feelings as well as recall of what took place.
- Procedural memories are stored knowledge and information that we use for carrying out complex motor skills.
- Semantic memories are recollections of general knowledge rather than personal experiences or events.

AO2

- Aleksy is recalling episodic memories of the first day of school because how it felt wearing school uniform was a personal experience.
- Aleksy is recalling procedural memories because recalling how to put on clothing is a motor skill.
- Taaliah is recalling semantic memories because naming the different parts of a volcano is factual information.
- Taaliah is recalling episodic memories of being in Year Four when she found out about volcanoes. This is a personal experience.

Credit other relevant content.

NOTE: If the candidate has written about more than one type of long-term memory AND/OR more than one example from the conversation, award marks to the combined answer that is clearest and most effective.

06	Describe and evaluate Murdock's serial position curve study.	[9 marks]
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Marks for this question: AO1 – 4 marks and AO3 – 5 marks

Level	Marks	Description
3 Detailed	7–9	AO1: Relevant knowledge and understanding of Murdock's serial position curve study is accurate with detail. AO3: Analysis and evaluation of Murdock's serial position curve study is effective. Conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
2 Clear	4–6	AO1: Relevant knowledge and understanding of Murdock's serial position curve study is present but there are occasional inaccuracies/omissions. AO3: There may be some effective analysis and evaluation of Murdock's serial position curve study. Any attempt to draw conclusions may be limited. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1–3	AO1: Knowledge and understanding of Murdock's serial position curve study is present but limited. AO3: Analysis and evaluation of Murdock's serial position curve study is of limited effectiveness or may be absent. Any attempts to draw conclusions are very limited or muddled. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

AO1

- To investigate whether there are separate short-term and long-term memory stores or to see if the number of words in a list affects memory of the list.
- Participants heard lists of words. The word lists had between 10 and 40 words on them. The participants were asked to recall as many as possible.
- Participants recalled more words from the start of the list (primacy effect) and the end of the list (recency effect) than those in the middle of the list.
- These results have been taken to show that the words at the end of the list were recalled best as they were still in the short-term memory. The ones at the start of the list were recalled well because they had been transferred to the long-term memory. The words in the middle of the list were not recalled well and this suggests that they were not in either the short- or long-term store.
- These results indicate the likelihood of recalling a word depends on its position in a list.

- This provides evidence for the existence of short- and long-term memory stores.

AO3

- This is a laboratory-based study so participants were using their memory under highly controlled conditions. This allowed the researcher to eliminate many extraneous variables so we can be sure the position of a word in a list affected the likelihood of it being recalled.
- Participants were asked to listen to word lists. This was an artificial task because people do not normally have to do this. This means the results may lack validity because they may not predict how serial position affects memory recall in everyday memory.
- The effects of serial position were tested in a laboratory setting in this study. This may have increased the artificiality of the performance of the participants. This means it is difficult to generalise research findings to predict the effects of serial position in a more normal setting.
- A limited sample of participants was used in this study. All of the participants were psychology students so may have been of a similar age. This means it may be difficult to generalise the findings to predict the effects of serial position to people of different ages or who have not studied psychology.

Credit other relevant content.

Section B

Perception

07	Some visual illusions are images that can be interpreted in more than one way. Which one of the following explains how this can occur? Shade one box. [1 mark]
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Marks for this question: AO1 – 1 mark

Answer – A (Ambiguity)

08.1	Bruner and Minturn investigated the effect of expectation on perception. Which two of the following statements are features of their study? Shade two boxes. [2 marks]
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Marks for this question: AO1 – 2 marks

Answers – A (Participants were asked to report and draw what they saw when they recognised it.) and E (The independent variable was whether participants were shown a sequence of letters or numbers.)

08.2	Briefly evaluate Bruner and Minturn's study.	[3 marks]
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Marks for this question: AO3 – 3 marks

Up to **3 marks** for relevant evaluation.

3 marks: a clear and detailed evaluation of Bruner and Minturn's study.

2 marks: a limited evaluation.

1 mark: a very limited/muddled evaluation.

Possible content

- The findings of this study can help us understand why people do not always perceive things accurately. For example, when we proofread our own writing, we may not spot spelling errors because we perceive what we expect to see rather than what is actually written. This means the study has real-life application.
- One problem with this study is that participants were asked to perceive an image that was deliberately created to be ambiguous and could be interpreted in two very different ways. We rarely need to perceive invented ambiguous figures in everyday situations so expectation may have less impact on perception in real life.
- This study was carried out in a laboratory in which the researchers standardised the procedures used. This meant that each participant was tested in the same way. This means that the study can be easily replicated.
- One strength of this study is that it supports Gregory's constructivist theory of perception because it shows that expectation can influence how we perceive sensory information. This shows that nurture can affect perception.

Credit other relevant content.

09.1	Calculate the percentage of people who said Car B was further away. Show your workings.	[2 marks]
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Marks for this question AO2 – 2 marks

2 marks for the correct answer.

90

OR

1 mark for correct workings **ONLY**.

$18/20 \times 100$

9/10 or 90/100 or equivalent

09.2	Name two monocular depth cues that are present in Figure 1 . [2 marks]
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Marks for this question AO2 – 2 marks

1 mark for each monocular depth cue up to MAX 2 marks:

- height in plane
- linear perspective
- occlusion
- relative size.

Credit other relevant content.

NOTE: If the candidate has written more than two answers, only mark the first two.

09.3	Explain how both of the monocular depth cues you have named in Question 9.2 help people to perceive the distance of the cars in Figure 1 . [4 marks]
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Marks for this question: AO1 – 2 marks and AO2 – 2 marks

Level	Marks	Description
2 Clear	3–4	AO1: Clear and accurate knowledge of both monocular depth cues with some detail. AO2: Clear and accurate application of knowledge and understanding of both monocular depth cues to Figure 1 . Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
1 Basic	1–2	AO1: Limited or muddled knowledge of monocular depth cues is present. AO2: Limited or muddled application of knowledge and understanding of monocular depth cues to Figure 1 . Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content**AO1**

- Height in plane: distant objects are seen or shown as being higher in the visual field in relation to items that are nearer.

- Height in plane: closer objects are seen or shown as being lower in the visual field in relation to items that are further away.
- Linear perspective: when parallel lines appear to converge or join together at some point in the distance.
- Occlusion: when an object covers part of another object, this makes it appear to be closer.
- Relative size: larger objects in the visual field appear to be closer than the smaller objects.
- Relative size: smaller objects in the visual field appear to be further away than the larger objects.

AO2

- Height in plane: Car **B** is higher in the visual field than Car **A** so we know it is further away.
- Linear perspective: the parallel lines either side of the road/lane appear to converge or join together more for Car **B** than Car **A**, so we know Car **B** is further away.
- Occlusion: Car **A** covers part of Car **B**, so we know car **A** is closer than Car **B**.
- Relative size: Car **A** appears larger than Car **B** so we know Car **A** is closer.

Credit other relevant content.

NOTE: The AO1 may be embedded in the application and can be credited.

NOTE: Where an explanation of only one accurate monocular depth cue is present this is to be considered a basic level answer.

NOTE: If the monocular depth cues explained in **9.3** do not match those credited in **9.2**, they are not considered creditworthy.

10	Describe Gibson's direct theory of perception. Refer to Hani in your answer.	[6 marks]
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Marks for this question: AO1 – 4 marks and AO2 – 2 marks

Level	Marks	Description
3 Detailed	5–6	AO1: Relevant knowledge and understanding of Gibson's direct theory of perception is accurate with detail. AO2: Clear and accurate application of knowledge and understanding of Gibson's direct theory of perception to Hani. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
2 Clear	3–4	AO1: Relevant knowledge and understanding of Gibson's direct theory of perception is present but there are occasional inaccuracies/omissions. AO2: Reasonable application of knowledge and understanding of Gibson's direct theory of perception to Hani. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1–2	AO1: Knowledge and understanding of Gibson's direct theory of perception is present but limited. AO2: Limited application of knowledge and understanding of Gibson's direct theory of perception to Hani. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

AO1

- Perceptual abilities are innate (nature) and do not have to be learnt through experience.
- We perceive things by using sensory information like optic flow patterns.
- We have enough information to understand the world around us by using just sensory information.
- Sensation and perception are the same thing.
- Visual information such as light, texture and detail (optic array) helps us to make judgements about distance, movement and depth.
- Motion parallax is a monocular depth cue which helps us understand movement. Things closer to us appear to move faster than things further away.
- Gibson's reference to affordances is his way of explaining why inference is not needed in perception.

- It is a bottom-up theory.

NOTE: Description of the Visual Cliff Experiment (Gibson & Walk, 1960) is not creditworthy.

AO2

- Hani can already perceive depth at the age of 10 months which supports Gibson's theory that perception is innate.
- Hani is unlikely to crawl off the top of the stairs because he can use sensory information to perceive depth.
- Visual information such as light, texture and detail (optic array) will help Hani to judge depth.

Credit other relevant content.

NOTE: The AO2 may be embedded in the AO1 or separate; both are equally acceptable.

NOTE: Reference to 'babies can perceive depth' and 'Hani stopped at the edge' are not enough by themselves for 'relevant content' because it is part of the question stem.

11	Evaluate Gibson's direct theory of perception.	[5 marks]
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Marks for this question: AO3 – 5 marks

Level	Marks	Description
3 Detailed	4–5	Analysis and evaluation of Gibson's direct theory is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning and is clear, coherent and focused.
2 Clear	2–3	There may be some effective analysis and evaluation of Gibson's direct theory. There may be an attempt to draw conclusions. Relevant terminology is used. The answer frequently demonstrates substantiated reasoning and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1	Analysis and evaluation of Gibson's direct theory is of limited effectiveness or muddled. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer lacks clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- Gibson's theory cannot explain why perception is sometimes inaccurate, for example when our brain is tricked by visual illusions.
- Gibson's theory provides a good explanation for how we are usually able to perceive quickly and accurately in everyday life using information from the optic array.
- Gibson's theory has helped us to understand the richness of the optical information our eyes receive, such as texture and colour gradient.
- Gibson developed his theory using evidence collected in real-life settings such as using pilots rather than through laboratory experiments. This increases the validity of his theory.
- Evidence shows that factors such as expectation and culture affect perception. This challenges Gibson's theory and suggests that nurture (knowledge and past experience) also plays an important role in perception.
- There is research evidence to support the idea that depth perception is innate. Gibson and Walk found that infants have abilities for perceiving depth even at a very young age. This supports the idea that perception may be due to nature.

Credit other relevant content.

Section C**Development**

12.1	According to Piaget's theory of cognitive development, the children in this experiment should be in which stage of cognitive development? Shade one box. [1 mark]
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Marks for this question: AO2 – 1 mark

Answer – C (Pre-operational)

12.2	Explain how the results shown in Table 2 can be used to evaluate Piaget's stage theory of cognitive development. [4 marks]
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Marks for this question: AO3 – 4 marks

Level	Marks	Description
2 Clear	3–4	Analysis of how the results shown in Table 2 can be used to evaluate Piaget's stage theory of cognitive development is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
1 Basic	1–2	Analysis of how the results shown in Table 2 can be used to evaluate Piaget's stage theory of cognitive development is of limited effectiveness or muddled. Any attempts to draw conclusions are not always successful. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- Piaget said that children's thinking becomes more complex with age. These results support his theory because a higher percentage of children could conserve when they were six years old than when they were four years old. This shows that age affects children's ability to conserve.
- Piaget said that most children could not conserve until they were seven years old. However, in this study, 16% of four-year-olds and 58% of six-year-olds were able to conserve. This suggests that children can conserve at a younger age than Piaget's theory suggested.

Credit other relevant content.

NOTE: Evaluation of Piaget's theory without using the results in **Table 2** (MAX 1 mark).**NOTE:** References to 'studies being used to support and/or challenge Piaget's theory' is not enough by themselves for 'relevant content' because it is part of the question stem.

13	What is meant by 'self-efficacy'?	[2 marks]
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Marks for this question: AO1 – 2 marks

Up to **2 marks** for a definition of self-efficacy.

2 marks: a clear and accurate definition.

1 mark: a limited or muddled definition.

Examples

- The belief in your own capabilities. (2 marks)
- The belief in your own ability to succeed at a task. (2 marks)
- A belief in yourself. (1 mark).

Accept other creditworthy answers such as ones that address high/low self-efficacy.

14	Piaget used the term 'egocentrism' to refer to a child not being able to see a situation from another person's point of view. Describe the study Hughes used to investigate the reduction of egocentricity.	[4 marks]
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Marks for this question: AO1 – 4 marks

Level	Marks	Description
2 Clear	3–4	Clear and accurate knowledge and understanding of Hughes' policeman doll study with some detail. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
1 Basic	1–2	Limited or muddled knowledge and understanding of Hughes' policeman doll study is present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- Thirty children aged from 3.5 to 5 years old took part in the laboratory study.
- Hughes tested egocentrism using a model of two intersecting walls, a boy doll and two policeman dolls.

- To introduce the task, a policeman doll was placed on the model. Each child was asked to hide the boy doll from the policeman doll.
- The child was told if they made a mistake, and was allowed to try the task again.
- In the actual experiment, a second policeman doll was placed on the model and the child was asked to hide the boy doll so that neither of the policeman dolls could see him.
- Ninety percent of the children were able to hide the boy doll from the policeman dolls.
- Hughes concluded that most children between 3.5 and 5 years old can see things from another person's point of view so are not egocentric in their thinking.

Credit other relevant content.

15	Describe Dweck's mindset theory of learning.	[4 marks]
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Marks for this question: AO1 – 4 marks

Level	Marks	Description
2 Clear	3–4	Clear and accurate knowledge of Dweck's mindset theory of learning with some detail. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
1 Basic	1–2	Limited or muddled knowledge of Dweck's mindset theory of learning is present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

- People with a fixed mindset believe that abilities such as intelligence are due to innate factors like genes. This means there is nothing you can do to change your ability or talent.
- People with a fixed mindset view failure as a lack of talent.
- People with a growth mindset believe that ability and success is due to hard work and perseverance.
- People with a growth mindset view failure as an opportunity to grow.
- Dweck believes the type of praise affects mindset. She differentiates between person praise and process praise (or between performance/ability and effort). Different forms of praise have different effects on learners' mindset.

Credit other relevant content.

16	Read each statement and identify whether it describes the role of nature or nurture in early brain development. Tick (✓) the correct box next to each statement. [4 marks]
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Marks for this question: AO2 – 4 marks

Evidence	Nature	Nurture
Research has shown that some infections during childhood affect brain development.		✓
Research has shown that playing with and speaking to a child can support healthy brain development.		✓
Research has shown that genes influence the development of the brain.	✓	
Research has shown that stressful life experiences can have negative effects on the development of a child's brain.		✓

17	Imagine you carry out the experiment using the method that has been described. Identify the following information: - the experimental design and the type of experiment you will be using - one ethical issue you will need to consider and how you will deal with this - the results you will expect to find from your experiment. [6 marks]
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Marks for this question AO2 – 4 marks and AO3 – 2 marks**AO2****1 mark** for a relevant experimental design.

- Independent groups

PLUS**1 mark** for a relevant type of experiment.

- Field experiment

PLUS**1 mark** for a relevant ethical issue.

- Respect
- Competence
- Responsibility
- Integrity
- Confidentiality/anonymity
- Informed consent
- Deception
- Right to withdraw
- Protection from harm
- Debrief

PLUS**1 mark** for an appropriate way of dealing with the relevant ethical issue.

- Do not use the participants' names in any report that is written.
- If participants must be referred to, use a number or a letter.
- Explain what the participants will be taking part in and ask if they are happy to do so.
- Tell participants as soon as possible if they were lied to in any way about what took place.
- Tell the participants before and during that they can stop taking part at any point. Afterwards, inform them that they can remove their results.
- Make sure that the risk to participants is no greater than that they face in everyday life.
- After the experiment, explain to the participants what they took part in and why, and how the results will be used.

AO3Up to **2 marks** for relevant expected results.**2 marks:** a clear and accurate description of the expected results with both conditions of the IV.**1 mark:** a limited or muddled description of the expected results.

Examples

- More students will pass their driving test when they are praised for effort (process) compared to driving ability (person) during lessons (2 marks).
- When they are praised for their effort more students will pass their driving test (1 mark).
- More students in group one will pass their driving test than the students from group two (1 mark).

Credit other relevant content.

Section D**Research Methods**

18	In which one of the following sampling methods does every member of the target population have an equal chance of being selected? Shade one box. [1 mark]
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Marks for this question: AO1 – 1 mark

Answer – B (Random)

19	In psychological research, what is meant by a 'case study'? [2 marks]
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Marks for this question: AO1 – 2 marksUp to **2 marks** for a definition of a case study in the context of psychological research.**2 marks:** a clear and accurate definition.**1 mark:** a limited or muddled definition.**Possible content**

- An in-depth investigation of an (unique) individual, group, organisation or situation.

Credit other relevant content.

NOTE: To be considered clear and detailed, reference to the concept of an 'in-depth investigation' **AND** 'of an individual, group, organisation or situation' must be made.

20.1	Use Table 3 to calculate the fraction of participants who had a mean daily social media use of less than 40 minutes. Write this fraction in its simplest form. [2 marks]
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Marks for this question: AO2 – 2 marks**2 marks** for the correct fraction in its simplest form.

1/4

1 mark for the correct fraction but not in its simplest form.

3/12

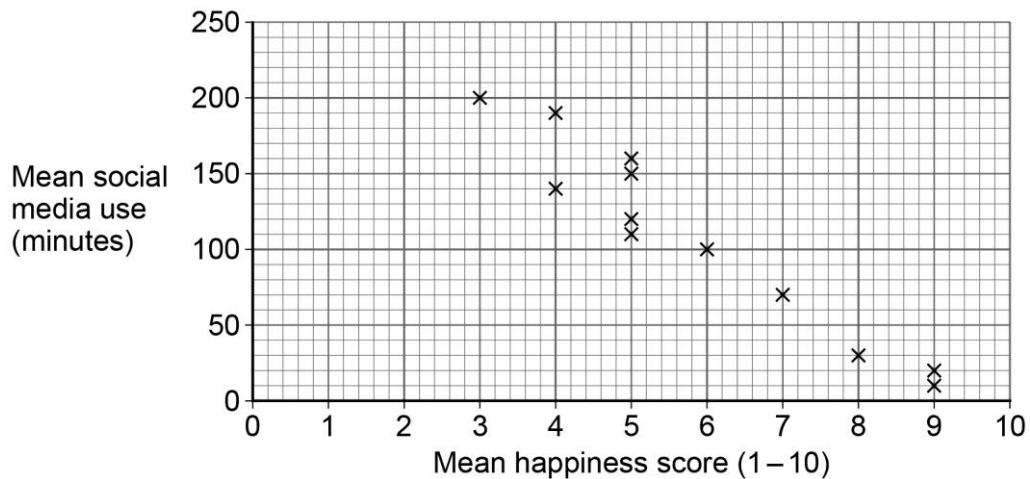
20.2	Use the graph paper to sketch a scatter diagram to display the results shown in Table 3. Provide a suitable title and labels for your diagram. [4 marks]
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Marks for this question: AO2 – 4 marks

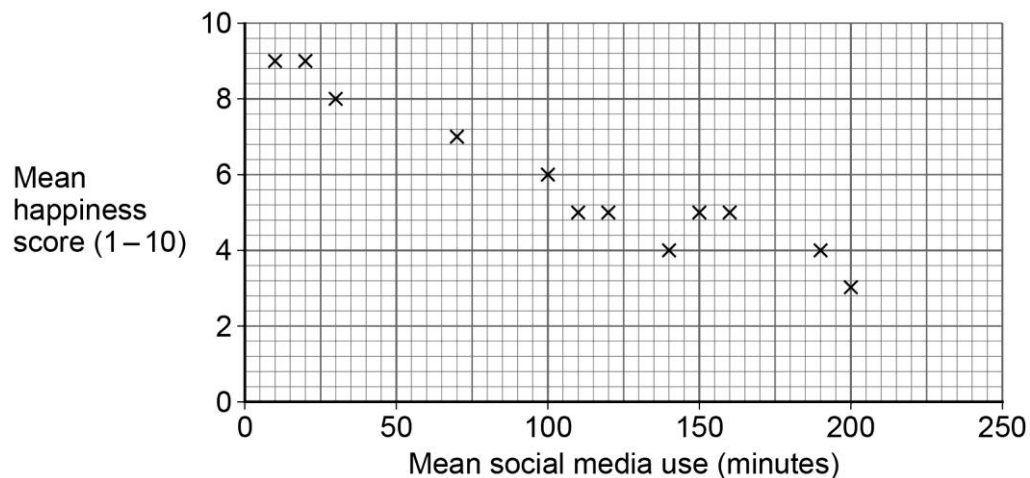
Up to **4 marks** for sketching and labelling a scatter diagram.

- Informative title (1 mark).
- Correct labelling of both axes (1 mark).
- Correct scaling of both axes (1 mark).
- Correct plotting of the results (1 mark).

A graph to show the relationship between the mean daily social media use and mean happiness score for each participant.



A graph to show the relationship between the mean daily social media use and mean happiness score for each participant.



NOTE: For a title to be considered suitable, it needs to have a reference to 'relationship' (correlation, comparison etc) and an appropriate reference to both of the variables.

NOTE: The labelling for both axes must include ‘mean’ in order to be creditworthy.

NOTE: Command term of ‘sketch’ implies that pinpoint accuracy in plotting points is not required for answers to be creditworthy.

20.3	Identify the type of correlation the psychologist has found between happiness and social media use. Shade one box. [1 mark]
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Marks for this question: AO2 – 1 mark

Answer – A (Negative correlation)

NOTE: The results in **Table 3** show the correlation type is negative and therefore this is only answer that is creditworthy, regardless of how candidates draw the graph in **20.2**.

20.4	Explain the strengths and weaknesses of using correlations in psychological research. In your answer, refer to the study investigating whether happiness is linked to social media use. [6 marks]
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Marks for this question: AO2 – 2 marks and AO3 – 4 marks

Level	Marks	Description
3 Detailed	5–6	AO2: Clear application of knowledge and understanding of the strengths and weaknesses of using correlations to the study investigating whether happiness is linked to social media use. AO3: Analysis and evaluation of the strengths and weaknesses of using correlations in psychological research is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
2 Clear	3–4	AO2: Reasonable application of knowledge and understanding of the strengths and weaknesses of using correlations to the study investigating whether happiness is linked to social media use. AO3: There may be some effective analysis and evaluation of the strengths and/or weaknesses of using correlations in psychological research. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1–2	AO2: Limited application of knowledge and understanding of the strengths and weaknesses of using correlations to the study investigating whether happiness is linked to social media use. AO3: Analysis and evaluation of the strengths and/or weaknesses of using correlations in psychological research is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content**AO3**

- Correlations can be used to investigate relationships without the researcher manipulating variables. This means that correlations can be used when other research methods are not suitable due to ethical or practical reasons.
- Correlation can provide a useful starting point for research because it allows a researcher to see whether two co-variables are connected. If a pattern is established between variables, a researcher can then use an experiment to further investigate this relationship.
- Correlation cannot be used to establish cause and effect relationships between two variables. For example, we might find a positive correlation between two variables. However, we cannot show that one causes the other as there may be a third variable that could explain this relationship.
- Large amounts of information are required for correlations to be useful. This is because establishing relationships from small samples may not be reliable. Collecting a large data set for correlations can be time consuming and expensive for researchers.
- Correlations can be used to identify and investigate non-linear (curvilinear) relationships between co-variables.

AO2

- This study can be used to investigate whether happiness is linked to social media use without the researcher manipulating either happiness or social media use.
- This study suggests that there may be a relationship between social media use and happiness which could lead to further research in this area.
- We cannot establish whether social media use affects happiness or whether it is levels of happiness that affect social media use.
- There may be a third factor that explains the negative correlation found between happiness and social media use.
- It could be that the relationship between happiness and social media is curvilinear for a specific subset of the participants used in this study.

Credit other relevant content.

NOTE: Credit should be given for relevant AO2 embedded within AO3 statements.

NOTE: For maximum AO2 marks to be awarded a reference does not need to be made to both strengths and weaknesses.

21	Briefly outline what is meant by ‘laboratory experiments’ and by ‘field experiments’. Use your knowledge of one published experiment to discuss the strengths and weaknesses of either laboratory experiments or field experiments. [9 marks]
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Marks for this question: AO1 – 4 marks and AO3 – 5 marks

Level	Marks	Description
3 Detailed	7–9	AO1: Relevant knowledge and understanding of laboratory experiments and field experiments is accurate with detail. AO3: Analysis of one published experiment to discuss the strengths and weaknesses of either laboratory experiments or field experiments is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, and is clear, coherent and focused.
2 Clear	4–6	AO1: Relevant knowledge and understanding of laboratory experiments and/or field experiments is present but there are occasional inaccuracies/omissions. AO3: There may be some effective analysis of one published experiment to discuss the strengths and/or weaknesses of either laboratory experiments or field experiments. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.
1 Basic	1–3	AO1: Knowledge and understanding of laboratory experiments and/or field experiments is present but limited. AO3: Analysis of one published experiment to discuss the strengths and/or weaknesses of either laboratory experiments or field experiments is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.
0	0	No relevant content.

Possible content

AO1

- In a laboratory experiment, the researcher manipulates/changes the independent variable and measures the effect of this on the dependent variable.
- Laboratory experiments are carried out in an artificial/controlled setting like a laboratory.

- In a field experiment, the researcher manipulates/changes the independent variable and measures the effect of this on the dependent variable.
- Field experiments are carried out in an everyday/naturally occurring environment like a school playground.

AO3

Example (Asch)

- One strength of using laboratory experiments is that the experimenter has a high level of control over variables. For example, in Asch's conformity study, he could alter the number of confederates to investigate the effect of group size on conformity. This means Asch could identify the effect of the independent variable (group size) on the dependent variable (the number of participants who conformed).
- One weakness is that laboratory experiments often involve artificial tasks. For example, in Asch's conformity study, participants were asked to judge the length of lines with a group of strangers which is not similar to everyday conformity behaviour. Levels of conformity may have been different if a less artificial task had been used because Asch's results may not predict conformity behaviour in normal situations. This limits the ecological validity of research findings.

Example (Gilchrist and Nesberg)

- A strength is that laboratory experiments normally use standardised procedures. For example, in Gilchrist and Nesberg's study of motivation, every participant was shown each slide of a meal for 15 seconds. This means that all participants were tested in the same way. This increases the reliability of the research.
- A weakness of using laboratory experiments is that a laboratory setting is not very similar to every day environments. For example, in Gilchrist and Nesberg's study of motivation, participants were asked to judge pictures of food in a laboratory. Participants may have made different judgements about pictures of food in an everyday environment like a restaurant. This limits the ecological validity of research conducted in a laboratory setting.

Example (Piliavin)

- A strength of using field experiments is that they are conducted in natural settings. For example, in Piliavin's subway study, a confederate pretended to collapse in the carriage of a New York City subway train to measure whether/how fast people in the carriage would help the confederate. This means participants behave as they normally would so results can have high ecological validity compared to laboratory experiments.
- A weakness of field experiments is that they can raise ethical issues. For example, participants in Piliavin's subway were not aware that they were taking part in an experiment so did not give consent and were unaware that they had a right to withdraw.

Credit other relevant content.

NOTE: Discussing strengths/weaknesses without **using knowledge** of a published experiment (MAX 1 AO3 mark). Just naming an experiment is not considered to be 'using knowledge'.

NOTE: Credit should be given for relevant AO1 embedded within AO3 statements.

NOTE: Credit is not limited to key studies for this specification and can be given for any relevant published experiment.

NOTE: If the candidate has written about the strengths and weaknesses of more than one **type** of experiment, award marks to the one that is clearest and most effective.