

Oxford Revise | AQA A Level Psychology | Answers

Chapter 11

All exemplar answers given would achieve full marks or the top level.

1. Marks for this question: AO1 = 1

Pre-operational

2. Marks for this question: AO2 = 6

This question is level-marked:

Level	Marks	Description
	5–6	• Knowledge of research into false-belief tasks is clear and generally well detailed.
3		Application is mostly clear and effective.
		• The answer is generally coherent with appropriate use of specialist terminology.
	3–4	 Knowledge of research into false-belief tasks is evident.
		There is some effective application.
2		The answer lacks clarity in places.
		 Specialist terminology is used appropriately on occasions.
	1–2	 Knowledge of research into false-belief tasks is limited.
		Application is either absent or inappropriate.
1		The answer as a whole lacks clarity and has inaccuracies.
		• Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO2 application:

- Lucas thought the car would be in the toy box and did not think to look anywhere else for it because he does not have theory of mind (ToM), which means he is not able to understand the perspective of others or that others have different knowledge to himself.
- Lucas' ToM deficits meant he didn't search for the car elsewhere because he didn't realise and wasn't able to comprehend that Arif had moved the car to the kitchen.
- Lucas is likely to have autism spectrum condition (ASC), which is linked to ToM deficits.
- In the Sally-Anne test, children diagnosed with ASC were compared to control groups of children with Down's syndrome. 20% of children with ASC and 85% of controls correctly identified where Sally would look for the marble.



• ToM deficits are not linked to low intelligence but are linked to ASC. Researchers suggest that deficits of ToM may be a complete explanation for ASC.

Credit other relevant applications.

3. Marks for this question: AO1 = 4

This question is level-marked:

Level	Marks	Description
2	3–4	 Knowledge of the process of equilibration in cognitive development is clear and accurate. The answer is mostly coherent with effective use of specialist terminology.
1	1–2	 Knowledge of the process of equilibration in cognitive development is briefly stated with little elaboration. The answer may include inaccuracies and be poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- Piaget claimed that motivation to assimilate (add new information to existing schemas) or accommodate (form new schemas) comes from the unpleasant cognitive state of disequilibrium in response to new stimuli.
- The unpleasantness is the driving force for the child to learn and either add to an existing schema or form or new one.
- Once this has been done, a state of equilibration occurs, restoring balance in the child's mind.

Credit other relevant material.

4. Marks for this question: AO3 = 3

3 marks for a clear, coherent strength or limitation of equilibration as a process in cognitive development, using appropriate terminology.

2 marks for a strength or limitation of equilibration as a process in cognitive development that lacks some clarity or detail.

1 mark for a brief or muddled strength or limitation of equilibration as a process in cognitive development.

Possible AO3 evaluation:

- There is little evidence that disequilibrium causes such dissonance that it motivates children to learn. One study found that mild conflict of expectation helped learning, but this is hardly the driving force described by Piaget.
- Critics argue that Piaget's original sample of clever, middle-class children was biased. These children were likely to be more intellectually curious, which may have led Piaget to overemphasise the role of equilibration in motivation.



- Vygotsky believed that others are central to the process of learning and that with social support (scaffolding) children can learn quickly.
- Piaget revolutionised the classroom, changing it from one of children copying from a board to actively engaging in tasks.

Credit any valid strength or limitation.

5. Marks for this question: AO1 = 6

This question is level-marked:

Level	Marks	Description
3	5–6	 Knowledge of the role of the mirror neuron system in social cognition is clear and generally accurate. Specialist terminology is used appropriately.
2	3–4	 Knowledge the role of the mirror neuron system in social cognition is evident but there may be some omissions/lack of clarity. There is some appropriate use of specialist terminology.
1	1–2	 Knowledge of the role of the mirror neuron system in social cognition is evident but there may be serious omissions and/or inaccuracies. Specialist terminology is either missing or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- Mirror neurons (MNs) are nerve cells involved in social cognition that fire in response to the actions of others.
- The mirror neuron system simulates the feelings of others within us, so we 'feel' their emotions.
- MNs also respond to others' intentions as well as actions understanding another's intentions is central to social cognition.
- MNs may be the biological mechanism that allows us to understand another's perspective and develop a theory of mind, because they enable us to simulate the emotions of others. When we understand someone else's thoughts and emotions we are better able to respond appropriately.
- Language is fundamental to social cognition and researchers believe MNs help infants imitate and develop language.
- Scanning techniques found evidence of MNs in Broca's area, which is the part of the brain responsible for speech production. This suggests that when infants observe others talking their Broca's area fires, which facilitates language.
- MNs may be an evolutionary adaptation that aided the survival of the human species. Humans rely on successful integration into large complex social groups and MNs facilitate this by allowing us to understand the emotions, perspectives, and intentions of others.



• Dysfunction in the mirror neuron system may be an explanation for ASC; 'broken mirror' theory claims that in infancy, dysfunctional MNs prevent the child imitating and understanding social behaviours. This leads to difficulties in language, communication, and social interactions, as children are unable to experience the intentions and emotions of others so don't know how to respond appropriately.

Credit other relevant material.

6. Marks for this question: AO1 = 2

2 marks for a clear, coherent explanation of what is meant by the term 'schema' in Piaget's theory of cognitive development, using appropriate terminology.

1 mark for a brief or muddled explanation of what is meant by the term 'schema' in Piaget's theory of cognitive development.

Possible AO1 content:

- Schemas are mental structures that represent a group of related concepts.
- They allow individuals to make sense of the world and quickly process new information.
- Children are born with a few schemas that allow them to interact with people (e.g. faces).
- Infants construct new schemas through environmental experiences.

7. Marks for this question: AO3 = 4

This question is level-marked:

Level	Marks	Description
2	3–4	 One strength AND one limitation of Piaget's stage theory of intellectual development is clear, appropriate, and effective. There is appropriate use of specialist terminology.
1	1–2	 One strength AND one limitation of Piaget's stage theory of intellectual development is limited or muddled. Use of specialist terminology is either absent or inappropriate. OR only one strength OR one limitation is explained at Level 2.
	0	No relevant content.

Possible strengths:

- Although replication studies found that children coped better with tasks requiring logic than Piaget anticipated, there were still age-related differences in their abilities. This suggests that biological maturation does drive cognitive development.
- Piaget's evidence that children are only biologically ready to learn concepts at specific ages led to changes in teaching methods. Rote learning was replaced by children actively engaging with activities appropriate to their cognitive stage of development.

Possible limitations:

- Critics argue that the way Piaget posed questions to test children's logic was confusing, which led him to underestimate their intellectual capability. For example, in the three-mountains task, children could take on the perspective of others if the task was made more realistic. E.g. they could show where to put a naughty boy doll so he wouldn't be seen by police officers.
- Piaget's claim that children under 7 are not cognitively developed enough to grasp class inclusion was challenged by a study of 100 five-year-olds who were given three sessions of 10 class-inclusion tasks. Children who received feedback after each task that explained the concept of class inclusion improved on the tasks, which suggests they had developed a genuine understanding of class inclusion.
- Critics argue that Piaget overestimated the cognitive abilities of adolescents. One researcher estimated that only a third of adults reach the formal operational stage and are capable of thinking in the abstract and solving hypothetical problems through deductive reasoning.

Credit any valid strength or limitation.

8. Marks for this question: AO2 = 4

This question is level-marked:

Level	Marks	Description
	3–4	Knowledge of Selman's theory is clear and mostly accurate.
2		The material is applied appropriately.
		• The answer is generally coherent with effective use of specialist terminology.
1	1–2	Some knowledge of Selman's theory is evident.
		Application is not always appropriate.
		The answer lacks accuracy and detail.
		• Use of specialist terminology is either absent or inappropriate.
	0	No relevant content.

Possible AO2 application:

- Alma is in stage 1 social-informational perspective taking suggesting she is 6 to 8 years old. She is aware of differences between her own viewpoint and her mother's, but assumes these differences are because her mother doesn't have the information that she has. She thinks that when she returns safely her mother will then have the same information as her.
- Martina is in stage 4 societal perspective-taking suggesting she is 12 to 15+ years old. She is using the
 perspective of society's conventions to help her reasoning. We know this as she considers what other
 people may think about her mother's behaviour (she should give more freedom) but believes they will
 understand that Camila is right to show concern.

It could be stated that Alma is in stage 0 and Martina is in stage 3, if this is justified in the explanation.

Credit other relevant applications.



9. Marks for this question: AO1 = 4

This question is level-marked:

Level	Marks	Description
2	3–4	 Knowledge of assimilation and accommodation in cognitive development is clear and accurate, and focused on distinguishing between the concepts. The answer is mostly coherent with effective use of specialist terminology.
1	1–2	 Knowledge of assimilation and accommodation in cognitive development is briefly stated with little elaboration. The answer may include inaccuracies and be poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- Assimilation involves adding new information to existing schemas, whereas accommodation involves the creation of a new schema.
- Assimilation requires prior knowledge and experience of a stimuli, whereas accommodation doesn't.

Credit the use of examples to illustrate the differences.

10. Marks for this question: AO1 = 3, AO3 = 5

This question is level-marked:

Level	Marks	Description
	7–8	 Knowledge of Piaget's research in relation to the pre-operational stage of intellectual development is accurate with some detail.
		Discussion is thorough and effective.
4		 Minor detail and/or expansion of argument is sometimes lacking.
		• The answer is clear, coherent, and focused.
		Specialist terminology is used effectively.
3	5–6	 Knowledge of Piaget's research in relation to the pre-operational stage of intellectual development is evident but there are occasional inaccuracies or omissions.
		Discussion is mostly effective.
		• The answer is mostly clear and organised but occasionally lacks focus.
		Specialist terminology is used appropriately.



		 Limited knowledge of Piaget's research in relation to the pre-operational stage of intellectual development is present. Focus is mainly on description.
2	3–4	 Any discussion is of limited effectiveness. The answer lacks clarity, accuracy, and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1–2	 Knowledge of Piaget's research in relation to the pre-operational stage of intellectual development is very limited. Discussion is limited, poorly focused, or absent. The answer as a whole lacks clarity, has many inaccuracies, and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- During the pre-operational stage (2–7 years) children can use language, but can't think logically, which leads to errors of reasoning in conservation, perspective-taking, and class inclusion.
- Conservation is the mathematical principle that a quantity stays the same despite its appearance. E.g. children in the pre-operational stage might think that the volume of water in a glass changes when poured into a differently shaped glass.
- Egocentrism is the inability to take on the perspective of others. This was demonstrated in the threemountain task, where children were only able to report their own view of mountains rather than from a doll's perspective.
- Class inclusion is the understanding that objects can be included into classifications (categories) *and* subsets. For example, dogs are included in both dog *and* animal classifications.

Possible AO3 discussion:

- Critics argue that the way Piaget posed questions to test children's logic was confusing, which led him to underestimate their intellectual capability. E.g. asking children about the quantities of water in the conservation task *twice* made them think that a different answer was required the second time. In the three-mountains task, children could take on the perspective of others if the task was made more realistic. E.g. they could show where to put a naughty boy doll so he wouldn't be seen by police officers.
- Piaget's claim that children under 7 are not cognitively developed enough to grasp class inclusion was challenged by a study of 100 five-year-olds who were given three sessions of 10 class-inclusion tasks. Children who received feedback after each task that explained the concept of class inclusion improved on the tasks, which suggests they had developed a genuine understanding of class inclusion.



- Although replication studies found that children coped better with tasks requiring logic than Piaget anticipated, there were still age-related differences in their abilities. This suggests that biological maturation does drive cognitive development.
- Piaget's evidence that children are only biologically ready to learn concepts at specific ages led to changes in teaching methods. Rote learning was replaced by children actively engaging with activities appropriate to their cognitive stage of development.

Credit other relevant material.

11. Marks for this question: AO1 = 3, AO2 = 2, AO3 = 3

This question is level-marked:

Level	Marks	Description
		 Knowledge of Baillargeon's theory of early infant abilities is accurate with some detail.
		Application is effective.
4	7–8	Discussion is thorough and effective.
		• Minor detail and/or expansion of argument is sometimes lacking.
		• The answer is clear, coherent, and focused.
		Specialist terminology is used effectively.
		• Knowledge of Baillargeon's theory of early infant abilities is present but there are occasional inaccuracies/omissions.
3	5–6	Application and/or discussion is mostly effective.
		• The answer is mostly clear and organised but occasionally lacks focus.
		Specialist terminology is used appropriately.
		• Limited knowledge of Baillargeon's theory of early infant abilities is present.
	3–4	Focus is mainly on description.
2		Any application/discussion is of limited effectiveness.
		• The answer lacks clarity, accuracy, and organisation in places.
		 Specialist terminology is used inappropriately on occasions.
		Knowledge of Baillargeon's theory of early infant abilities is very limited.
1		Application/discussion is limited, poorly focused, or absent.
	1–2	• The answer as a whole lacks clarity, has many inaccuracies, and is poorly organised.
		• Specialist terminology is either absent or inappropriately used.
	0	No relevant content.



Possible AO1 content:

- Baillargeon developed the violation of expectation (VOE) technique to investigate infant understanding of the physical world.
- VOE research: 24 infants aged 5–6 months were shown a tall and short rabbit passing behind a screen with a window. In the possible condition, the tall rabbit could be seen passing the window but not the short one. In the impossible condition, neither rabbit could be seen passing the window.
- The infants looked at the impossible event for longer (average 33.07 seconds) compared to the possible (average 25.11 seconds).
- Infants stared longer at the impossible event because they were surprised that the tall rabbit didn't appear at the window, which suggests they understood object permanence.
- Baillargeon proposed that babies have an innate physical reasoning system (PRS), which means they are born with an understanding of the physical world and mechanisms that help develop this understanding through experience.
- PRS was demonstrated in the 'unveiling' experiments, where infants were shown a cover with a protuberance, suggesting an item was hidden underneath. By 12.5 months infants showed surprise if there was nothing underneath, and if the item was smaller than the protuberance suggested. The infants had incorporated size into their physical reasoning of protuberances.

Possible AO2 application:

- Malika, at 6 months old, displayed object permanence because she stared intently and seemed fascinated when Fatima made it appear that the teddy bear had disappeared.
- Malika's PRS means she was born with an understanding of the physical world, which is why she is fascinated at the teddy bear seeming to disappear.

Possible AO3 discussion:

- Unlike Piaget, who only studied white, middle-class infants, Baillargeon's sample used birth announcements in the newspaper to give a higher population validity.
- Baillargeon's research was controlled for observer bias through a double-blind technique where observers didn't know whether the babies were looking at possible or impossible conditions.
- Parents were asked to close their eyes while holding their baby on their lap to control for unintentional cues. These measures resulted in high experimental validity.
- VOE experiments may not be measuring surprise at violation of physical laws. The infants may have looked for different lengths of time at different events because they see them as different, or interesting.
- Researchers support Baillargeon's idea that the PRS is innate; they highlight the universality of infants' understanding of physical objects. They gave the example that regardless of culture, learning, or experience, we know that if someone drops a keyring it will fall to the floor. The understanding requires a PRS and is universal, suggesting it is innate.
- There is a lack of studies of babies from different cultures. More research should be conducted to determine the influence of nature and nurture on an infant's cognitive ability to understand the physical world.



• Testing the PRS directly is difficult, but it is comparable to other theories of innate abilities, such as the findings of Pei *et al.* on distance perception. These theories are useful in supporting the idea that the brain is equipped with mechanisms for cognitive development in many areas.

Credit other relevant material.

12. Marks for this question: AO1 = 6, AO3 = 10

This question is level-marked:

Level	Marks	Description
		 Knowledge of Vygotsky's theory of cognitive development is accurate and generally well detailed.
		Discussion is thorough and effective.
4	13–16	 Minor detail and/or expansion of argument is sometimes lacking.
		• The answer is clear, coherent, and focused.
		Specialist terminology is used effectively.
		• Knowledge of Vygotsky's theory of cognitive development is present but there are occasional inaccuracies/omissions.
3	9–12	Discussion is mostly effective.
		• The answer is mostly clear and organised but occasionally lacks focus.
		 Specialist terminology is used appropriately.
	5–8	• Limited knowledge of Vygotsky's theory of cognitive development is present.
2		• Focus is mainly on description. Any discussion is of limited effectiveness.
2		• The answer lacks clarity, accuracy, and organisation in places.
		 Specialist terminology is used inappropriately on occasions.
		Knowledge of Vygotsky's theory of cognitive development is very limited.
1		• Discussion is limited, poorly focused, or absent.
	1-4	 The answer as a whole lacks clarity, has many inaccuracies, and is poorly organised.
		• Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- Vygotsky believed that children's cognitive abilities develop with age and through social interactions, with knowledgeable people known as 'experts'.
- Experts transmit their knowledge through semiotics (signs and symbols), which may vary across cultures. Language is the primary semiotic and enables a shared dialogue between the expert and child.



- Mathematical symbols are also valuable semiotics, and also influence a child's cognitive development.
- Once the child can form mental representations, they begin to communicate within themselves.
- Culture is important as the expert transmits culturally specific knowledge, so the child learns the reasoning abilities specific to their culture.
- The zone of proximal development (ZPD) is the region between what a child can already understand and what they would be unable to understand even with support.
- Vygotsky claimed that children's social interactions with experts is crucial to crossing the ZPD and that they learn more from others than individual exploration of the world.
- They may be limited by their developmental stage, but they learn as much as they are capable of in the ZPD. They don't just learn facts but acquire advanced reasoning skills.
- Scaffolding refers to how children are assisted by experts to cross the ZPD. The expert creates a temporary support (scaffold) that is gradually withdrawn as the child's cognitive ability increases.
- Scaffolding methods range from demonstrating tasks and giving explicit instructions (high levels of support) to verbal prompts and encouragement (low levels of support).
- Task mastery was linked to contingent regulations, which means varying the levels of support in response to the child's ability on a task. Higher levels should be provided if the child is failing and lower levels when they begin to succeed.

Possible AO3 evaluation:

- Researchers investigated the cognitive impact of a counting system in Papua New Guinea where they count to 27 using body parts. Their mathematical semiotics limit their cognitive ability to add large numbers beyond 27. This provides evidence for Vygotsky's theory that culture is influential in cognitive development.
- Researchers showed participants a kidney-shaped drawing and told them it was either a kidney bean or a canoe. Later, they were asked to draw the shape, and their drawings differed depending on which label they were given. This suggests that language influences the way we think and process memories.
- Researchers asked 4–5-year-old children to estimate the number of sweets in a box. Children worked alone or with an expert (an older child). Children who received scaffolding from experts were able to make good estimates, unlike those working alone.
- A longitudinal study found mothers provided fewer direct interventions (high level of support) and more verbal hints (lower level of support) in response to their child's increased ability to complete problemsolving tasks. This supports the contingent regulations theory that mastery of a task should have scaffolding removed gradually.
- If social interaction was all that was needed for cognitive development, then learning would be faster, and children would all learn the same things from interactions. However, a study of children aged 9–12 found that they came to different conclusions after group interactions, which suggests that learning varies and is not limited to social interactions.

Credit other relevant material.



13. Marks for this question: AO1 = 6, AO2 = 4, AO3 = 6

This question is level-marked:

Level	Marks	Description
		 Knowledge of theory of mind and/or mirror neurons as explanations for the development of social cognition is accurate and generally well detailed. Application is effective.
4	13–16	 Discussion is thorough and effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent, and focused.
		Specialist terminology is used effectively.
		 Knowledge of theory of mind and/or mirror neurons as explanations for the development of social cognition is present but there are occasional inaccuracies/omissions.
3	9–12	Application and/or discussion is mostly effective.
		• The answer is mostly clear and organised but occasionally lacks focus.
		 Specialist terminology is used appropriately.
	5–8	• Limited knowledge of theory of mind and/or mirror neurons as explanations for
		the development of social cognition is present.
2		Focus is mainly on description.
_		Any discussion and/or application is of limited effectiveness.
		 The answer lacks clarity, accuracy, and organisation in places.
		 Specialist terminology is used inappropriately on occasions.
		 Knowledge of theory of mind and/or mirror neurons as explanations for the development of social cognition is very limited.
1	1–4	• Discussion and/or application is limited, poorly focused, or absent.
		 The answer as a whole lacks clarity, has many inaccuracies, and is poorly organised.
		• Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content for theory of mind (ToM):

• ToM is an individual's understanding that other people have their own thoughts and feelings, which can be understood through facial expressions. ToM starts to develop at the age of 4 and is considered essential for social interactions and relationships.

- Testing for ToM uses false-belief tasks. In one such task, children heard a story about a boy called Maxi, who saw his mum put chocolate in a blue cupboard. While Maxi was at the park, his mum moved the chocolate to a green cupboard. Children were asked where Maxi would look for the chocolate. Nearly all 3-year-olds incorrectly said the green cupboard, but some 4-year-olds correctly identified the blue cupboard, which suggests that ToM begins to develop at age 4.
- A false-belief task called the Sally–Anne test uses a story of two dolls, Sally and Anne, where Sally puts a marble in her basket, but Anne moves it to a box while Sally is away. Children are asked where Sally will search for the marble.
- Researchers used the Sally–Anne test to assess the link between ToM deficits and autism spectrum condition (ASC). Children diagnosed with ASC were compared to control groups of children with Down's syndrome.
- 20% of children with ASC and 85% of controls correctly identified where Sally would look for the marble.
- The test suggested that ToM deficits are not linked to low intelligence but are linked to ASC. Researchers suggest that deficits of ToM may be a complete explanation for ASC.
- High-functioning adolescents and adults with autism easily succeeded on false-belief tasks, so researchers devised the more challenging, Eyes Task (identifying an emotion from a photo of a person's eyes). High-functioning ASC individuals struggled with the Eyes Task, which supports ToM deficits as an explanation for ASC.

Possible AO2 application for theory of mind (ToM):

- Anita is more considerate of Lila's feelings even though she annoys her because she has ToM, where she understands the differences between them.
- Lila does not have ToM. She didn't tell Anita that Peter had moved her phone even though she looked for it for half an hour because she doesn't have the ability to understand that others have false beliefs. She can't distinguish between what she knows and what Anita knows.
- Lila also demonstrated a lack of ToM because she didn't understand that Anita was getting frustrated and angry despite clear facial expressions that this was the case.

Possible AO3 discussion for theory of mind (ToM):

- Research shows that not *all* autistic people lack ToM, which suggests that it can't be a complete explanation for ASC because if it was, all autistic people would have this deficit.
- It isn't possible to tell whether ToM deficits are a cause or effect of ASC. It might not be that a lack of ToM causes difficulties in social interaction, but rather that difficulty communicating stops ToM from developing.
- Critics argue that false-belief tasks do not measure ToM because success on a false-belief task requires other cognitive abilities, such as memory. Although the Sally–Anne story is shorter than others, it's still a lot for a 3-year-old to recall. Researchers found that when they gave ASC children visual aids to help them remember the story, they were more likely to succeed.
- Critics argue that looking at a static pair of eyes (the Eyes Tasks for adolescents and adults) in isolation is very different from real life, where other non-verbal cues are available to help interpret someone's thoughts and feelings.



- Researchers found that ToM appears earlier in children from large families and suggest this is because having a large family requires the child to think about the feelings of others when resolving inevitable conflicts. This highlights the role of experience alongside biological maturation in the development of ToM.
- A study of 300 Chinese and North American children found that ToM develops in the same sequence for both groups, which supports the role of biological factors in its development. However, the timings differed by up to 2 years, which supports the role of experience.

Possible AO1 content for mirror neurons (MNs):

- MNs are nerve cells involved in social cognition that fire in response to the actions of others.
- The mirror neuron system simulates the feelings of others within us, so we 'feel' their emotions.
- MNs also respond to others' intentions as well as actions understanding another's intentions is central to social cognition.
- MNs may be the biological mechanism that allows us to understand another's perspective and develop a ToM, because they enable us to simulate the emotions of others. When we understand someone else's thoughts and emotions we are better able to respond appropriately.
- Language is fundamental to social cognition and researchers believe MNs help infants imitate and develop language.
- Scanning techniques found evidence of MNs in Broca's area, which is the part of the brain responsible for speech production. This suggests that when infants observe others talking their Broca's area fires, which facilitates language.
- MNs may be an evolutionary adaptation that aided the survival of the human species. Humans rely on successful integration into large complex social groups and MNs facilitate this by allowing us to understand the emotions, perspectives, and intentions of others.
- Dysfunction in the mirror neuron system may be an explanation for ASC; 'broken mirror' theory claims that in infancy, dysfunctional MNs prevent the child imitating and understanding social behaviours. This leads to difficulties in language, communication, and social interactions, as children are unable to experience the intentions and emotions of others so don't know how to respond appropriately.

Possible AO2 application for theory of mind (ToM):

- The mirror neuron system simulates the feelings of others within us, so we 'feel' their emotions. Lila can't feel the frustrated emotions of Anita.
- Lila may have a 'broken mirror' because she can't understand that Mona was getting frustrated and angry despite clear facial expressions that this was the case.
- Anita is able to realise that Lila has extra needs because she doesn't have autism, so she doesn't snap at her even when she does something that appears selfish, like not telling her that Peter had moved her phone when she was looking for it.

Possible AO3 discussion for theory of mind (ToM):

• Researchers suggested that a part of the brain rich in MNs, called the pars opercularis, is involved in perspective-taking. Male participants watched either a fishing documentary, a comedy, or heterosexual



pornography while in an fMRI scanner. Activation of the pars opercularis was seen immediately before sexual arousal, which suggests that MNs produced the perspective-taking that made the pornography arousing.

- Scanning techniques don't allow us to measure activity in individual brain cells. Researchers can only infer that activity in a brain area means activity of mirror neurons. There is a lack of direct evidence for mirror neuron activity in studies that use scanning techniques.
- Critics argue that MNs are the outcome of classical conditioning, with neurons becoming paired because they are both excited at the time. This criticises the evolutionary adaptation theory because it suggests that MNs are a result of experience rather than being innate.
- Researchers found that autistic children showed reduced activity in the inferior frontal lobe, which is associated with the mirror neuron system, compared to non-autistic children while watching facial expressions. The evidence supports the idea that MN dysfunction is linked to ASC. Researchers suggested that strengthening MNs through imitation-based activities may help autistic individuals.

Credit other relevant material.

Questions on previous content

1. Marks for this question: AO1 = 2

2 marks for a clear, coherent outline of the term 'heredity' using appropriate terminology.

1 mark for a brief or muddled outline of the term 'heredity'.

Possible AO1 content:

- Heredity means that behaviours can be inherited from our biological parents' genes.
- Parents pass on genes that determine not only physical characteristics, but psychological characteristics such as aggressive behaviours, addiction, and schizophrenia.

2. Marks for this question: AO3 = 3

3 marks for a clear, coherent limitation of environmental determinism in explaining behaviour, using appropriate terminology.

2 marks for a limitation of environmental determinism in explaining behaviour that lacks some clarity or detail.

1 mark for a brief or muddled limitation of environmental determinism in explaining behaviour.

Possible AO3 evaluation:

• If behaviour was largely environmentally determined, then we would expect the concordance rates to be very high for both MZs and DZs due to their similar upbringings, but they aren't. Concordance rates tend to be higher for MZs than DZs, indicating a biological component to behaviour and questioning the influence of the environment on determining behaviour.



- Social learning theory identifies that behaviour is largely determined by imitating significant role models and vicarious reinforcements. However, there are also mediational (cognitive) processes involved, so there is also an element of free will in determining behaviour.
- Skinner claimed that free will is an illusion and that behaviour is determined by classical and operant conditioning and reinforcement history.

Credit any valid limitation.

3. Marks for this question: AO1 = 4, AO2 = 2

This question is level-marked:

Level	Marks	Description
3	5–6	 Knowledge of the nomothetic approach to psychological investigation is clear and generally well detailed.
		 Application to the topic is mostly clear and effective.
		• The answer is generally coherent with appropriate use of specialist terminology.
	3–4	Knowledge of the nomothetic approach to psychological investigation is evident.
2		There is some effective application to the topic.
		The answer lacks clarity in places.
		 Specialist terminology is used appropriately on occasions.
	1–2	Knowledge of the nomothetic approach to psychological investigation is limited.
1		 Application to the topic is either absent or inappropriate.
		• The answer as a whole lacks clarity and has inaccuracies.
		• Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- The nomothetic approach focuses on the study of large groups of people.
- It uses quantitative methods to gather numerical data, for use with statistical analysis.
- Nomothetic approaches tend to be determinist and reductionist.
- Nomothetic approaches aim to generate laws/theories of behaviour.

Possible AO2 application:

You can refer to any topic in Psychology from Years 1 or 2. Examples include:

- The biological approach takes a nomothetic approach when using drug trials, to draw conclusions like serotonin causing depression.
- Behaviourists experimented on hundreds of animals to develop the laws of learning theory.
- Cognitive psychologists tested large samples of people in laboratory experiments and made inferences about memory processes based on their performance.



• The nomothetic approach to investigating personality uses psychometric tests on large groups, such as Eysenck's Personality Questionnaire (which used factor analysis to produce personality types).

Credit other relevant material.

4. Marks for this question: AO1 = 4, AO2 = 2

This question is level-marked:

Level	Marks	Description
3	5–6	 Knowledge what is meant by levels of explanation in psychology is clear and generally well detailed.
		Application is mostly clear and effective.
		• The answer is generally coherent with appropriate use of specialist terminology.
2	3–4	Knowledge of what is meant by levels of explanation in psychology is evident.
		There is some effective application.
		The answer lacks clarity in places.
		 Specialist terminology is used appropriately on occasions.
1	1–2	Knowledge of what is meant by levels of explanation in psychology is limited.
		Application is either absent or inappropriate.
		The answer as a whole lacks clarity and has inaccuracies.
		• Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible AO1 content:

- Holism and reductionism have different ways of viewing the same behaviour, and they are demonstrated through levels of explanation.
- Highest level: how our cultural and social groups influence behaviour. The most holistic level.
- Middle level: psychological explanations of behaviour.
- Lower level: biological explanations of behaviour. The most reductionist level.

Possible AO2 application:

You could apply the levels of explanation to any relevant topic you have studied in Years 1 and 2. Here they are applied to memory:

- Highest level: memory is viewed in terms of how cultural and social experiences and expectations influence our memories.
- Middle level: memory is explained in terms of STM and LTM, which are broken down into component parts (the central executive, the episodic buffer, etc).
- Lower level: memory is explained in terms of the biological areas of the brain, and the neurotransmitters involved in storing and forming memories.

Credit other relevant material.