1. The ADHD medication Adderall is also called D-amphetamine. Which statement provides the most plausible reason for using Adderall as a treatment for ADHD? Adderall can be classified as a:

A. depressant, which alleviates the hyperactive symptoms in children with ADHD.
B. depressant, which allows for increased focus in children with ADHD.
C. stimulant, which agonizes the hyperactive symptoms of children with ADHD.
D. stimulant, which overwhelms the sympathetic nervous system and causes a reset of the balance between the parasympathetic and sympathetic nervous systems of children with ADHD.

2. The concept of cognitive load is used to describe the total amount of mental effort used to solve a problem. An increased cognitive load is associated with negative effects on problem solving. The concept of cognitive load is most similar to:

A. semantic memory.
B. rote memory.
C. working memory.
D. state-dependent memory.

3. A car salesman makes a habit of listing prices at ten thousand dollars above market value. The salesman approaches a customer inspecting a car with a list price of thirty thousand dollars and offers a price of twenty-five thousand dollars, which the consumer accepts. The salesman’s approach takes advantage of which principle?

A. anchoring heuristics
B. availability heuristics
C. intuition
D. inductive reasoning

4. The gambler’s fallacy is the belief that statistically random events are more likely to occur in the future if they have occurred less frequently during a recent time period (or vice versa). The gambler’s fallacy is most closely related to which concept?

A. Cognitive bias
B. Functional fixedness
C. Mental set
D. Availability heuristic

5. When tested, 5-year-old children show no signs of functional fixedness. By age 7, children begin to display functional fixedness. Which statement provides the best explanation for the differences in cognitive barriers to problem solving that exist between 5-year-olds and 7-year-olds?

A. The 7-year-old child has not had the experience needed to assign purpose to an object.
B. The 5-year-old child has developed a rigid mental set.
C. The 5-year-old child has not had the experience needed to assign purpose to an object.
D. The 7-year-old child views any goal to be achieved with an object as equivalent to any other goal.

6. A professor suggests to the chair of his department that they could increase the efficiency of student learning by replacing large lectures with interactive small-group instruction. The department chair rejects the idea, stating that lectures have a long historical track record at the university. The difference in approach between these two professors could be attributed to:

A. the typicality effect.
B. inductive reasoning.
C. anchoring.
D. the availability heuristic.
7. The image shown is from the Simon-Binet intelligence scale, where it is presented with the question: “Which of the faces in each pair is prettier?” A possible experimental design flaw inherent in this question is that the test item is:

I. racially biased.
II. subjective.
III. algorithmic.

A. I only
B. II only
C. I and II only
D. I and III only

8. During one study, brain surgeons stimulated the limbic system using an electric probe. Patients reported feeling different degrees of happiness, pleasure, fear, and anger when the probe was placed in different regions of the limbic system. This finding provides the most support for:

A. instinctive processing by the hypothalamus.
B. decreased higher-order function in response to stress.
C. the role of the limbic system in processing emotion.
D. the role of the limbic system in motivation.

9. Which statement provides a plausible explanation for the positive correlation between hypoglycemia and night terrors?

A. High blood sugar levels lead to activation of the parasympathetic nervous system.
B. High blood sugar levels provide the energy required to fuel the neurons responsible for night terrors.
C. Low blood sugar levels lead to stress-induced activation of the sympathetic nervous system.
D. Low blood sugar levels cause the secretion of glucagon.

10. A person suffering from chronic sleep deprivation would be LEAST likely to exhibit which symptom?

A. High blood sugar
B. Low blood pressure
C. Decreased cognitive functioning
D. Depression

11. In a recent study, children in different age groups were shown photos of people from varying ethnic backgrounds in numerous situations. The ability to identify the motivations and emotions of the individuals portrayed in the pictures was positively correlated with the child’s age. This finding is most relevant to which concept?

A. Intrapersonal intelligence
B. Ethnic intelligence bias
C. Visual-spatial intelligence
D. Interpersonal intelligence

12. Levels of which hormone are most likely to be positively correlated with night terrors?

A. Adrenaline
B. Oxytocin
C. Melatonin
D. Dopamine
13. In a study of cognition, researchers observed children of various ages at play. After 10 minutes of play, researchers took away the children’s toys and put them in a box. Some children went to the box, opened it, and retrieved the toys. Other children became frustrated, but made no attempt to open the box. These children were exhibiting differing levels of progress in which of Piaget’s developmental stages?

A. Concrete operational  
B. Formal operational  
C. Sensorimotor  
D. Preoperational

14. A parent covers a child’s snack with a bowl, and the child reacts by flipping the bowl over to retrieve the snack. The parent offers milk to the child in two identically-sized glasses, and the child chooses the glass that is most full. The parent pours the milk from the glass that was most full into a wider glass, making the level of the milk lower in that glass, than in the glass originally rejected by the child. The child then selects the glass he originally rejected. Which statement best explains this scenario?

A. The child has mastered the formal operational stage of cognitive development, but is still struggling with the concrete operational stage of cognitive development.  
B. The child has developed a sense of object permanence, but has not mastered the concept of conservation.  
C. The child has mastered the preoperational stage of cognitive development, but is still progressing through the sensorimotor stage of cognitive development.  
D. The child has mastered the concept of reversibility, but has not yet mastered a systematic approach to problem solving.

15. Which scenario would be most likely to induce cognitive dissonance?

A. A priest believes in God; He is given a pamphlet promoting atheism.  
B. A political activist supports a pro-choice agenda; The activist attends a rally supporting pro-choice legislation.  
C. A physics student believes the earth pulls harder on the moon than the moon does on the earth; The student is reminded by a fellow student that Newton’s Third Law suggests otherwise.  
D. A lecturer with a PhD in organic chemistry teaches a mechanism to his students; A student suggests that there is a flaw in his proposed mechanism.

16. Most people dream about hypothetical or surreal circumstances, not about the day’s events. Also, most dreams cannot be recalled accurately the following day. Taken together, these observations have what relationship to the problem-solving theory of dreams?

A. They support the problem-solving theory because people encounter problems daily, and do not always remember their problems.  
B. They support the idea that the unconscious mind is better suited to solve problems because it is unrestricted by realistic practicality.  
C. They refute the problem-solving theory because most problems arise as part of the day’s events, and dreamed solutions cannot be remembered.  
D. They refute the idea that dreams are expressions of repressed sexual motives and desires.

17. A man is deciding between the purchase of a luxury SUV, which he strongly prefers, and a fuel-efficient hybrid sedan, which he does not like as much as the SUV. If the man were to purchase the hybrid vehicle, which statement would the man be LEAST likely to employ to reduce cognitive dissonance?

A. The hybrid gets better gas mileage.  
B. The SUV gets worse gas mileage.  
C. The hybrid is better for the environment.  
D. The SUV has more space.
18. Which situation would most likely result in an attitude change? A physically attractive source presents a:

A. balanced message to a target with high self-esteem.
B. biased message to a target with high self-esteem.
C. balanced message to a target with moderate self-esteem.
D. biased message to a target with low self-esteem.

19. A nutritional supplement company hoping to utilize the peripheral route of attitude change could:

A. use an infomercial explaining that the ingredients of the supplement correlate with positive outcomes.
B. create a blog post detailing the scientific reasoning behind the supplement’s formula.
C. hire a PhD to endorse the product.
D. present the results of a study demonstrating the efficacy of the supplement.

20. The statement “I usually succeed” is most directly related to a person’s:

A. self-concept.
B. self-identity.
C. self-efficacy.
D. self-esteem.

21. According to Erickson’s stages of psychosocial development, an infant whose primary caregiver displays harsh and unpredictable care is LEAST likely to experience which outcome?

A. Fear
B. Hope
C. Mistrust
D. Purpose

22. A researcher exposes an experimental group of children to a movie which induces fearful emotions. How would the Cannon-Bard theory of emotion explain the fearful emotions experienced by the experimental group? Children experienced physiological arousal from watching the frightening program and:

A. this arousal is followed by fearful emotions.
B. they simultaneously experience fearful emotions.
C. they interpret their arousal and experience fearful emotions.
D. this leads to parasympathetic responses that are perceived as fearful emotions.

23. A researcher exposes an experimental group of children to a movie which induces fearful emotions. How would the Schachter-Singer theory of emotion explain the fearful emotions experienced by the experimental group? Children experienced physiological arousal from watching the frightening program and:

A. this arousal is followed by fearful emotions.
B. they simultaneously experience fearful emotions.
C. they interpret their arousal and experience fearful emotions.
D. this leads to parasympathetic responses that are perceived as fearful emotions.

24. A researcher exposes an experimental group of children to a movie which induces fearful emotions. How would the James-Lange theory of emotion explain the fearful emotions experienced by the experimental group? Children experienced physiological arousal from watching the frightening program and:

A. this arousal is followed by fearful emotions.
B. they simultaneously experience fearful emotions.
C. they interpret their arousal and experience fearful emotions.
D. this leads to parasympathetic responses that are perceived as fearful emotions.
25. Examples of implicit emotional memory include:
   I. conscious recall of a traumatic event.
   II. feeling the same panic one experienced during a traumatic event.
   III. unconscious emotion encoded during a traumatic event.

A. II only
B. I and II only
C. I and III only
D. II and III only

26. Which physiological symptom could NOT be used to distinguish between fear and happiness?
   A. Low skin temperature
   B. High heart rate
   C. Low heart rate
   D. High blood pressure

27. The chronic stress associated with a hostile home environment could have all of the following outcomes EXCEPT:
   A. increased risk of heart disease.
   B. high blood pressure.
   C. ulcers.
   D. increased immune response.

28. Which intervention by a parent hoping to improve their child’s academic performance makes use of extrinsic motivators?
   A. Playing a game with the child designed to improve their problem solving skills.
   B. Giving the child worksheets with logic puzzles.
   C. Playing classical music while the child studies.
   D. Taking the child out for dinner for every A grade they earn.

29. According to Erickson’s Theory of Psychosocial development, a child who is not allowed to play with others during pre-school or kindergarten is likely to exhibit increased levels of:
   A. autonomy.
   B. guilt.
   C. competence.
   D. will.

30. A professor investigating locus of control conducts a survey of his students who have been recently accepted to medical school and concludes that the majority of pre-medical students have an internal locus of control. What is a potential flaw in this study design?
   A. The study it too easily generalizable to other populations.
   B. The study lacks a high degree of external validity.
   C. The study has a high degree of internal validity.
   D. The study was observational rather than experimental.

31. The finding that identical stimulations of the sympathetic nervous system can produce different emotional responses in study subjects would provide the most support for which theoretical perspective of emotion?
   A. James-Lange theory of emotion
   B. Cannon-Bard theory of emotion
   C. Schachter-Singer theory of emotion
   D. Incentive theory of emotion
32. Persons suffering from chronic sleep deprivation will most likely:

A. have an increased likelihood of experiencing a schizophrenic episode.
B. have increased levels of dopamine in the central nervous system.
C. engage in frequent micro-sleeps until a night of undisrupted sleep is achieved.
D. experience enhanced judgment and executive function.

33. Study subjects given nightly melatonin injections are likely to experience which symptom?

A. Drowsiness
B. Difficulty falling asleep
C. Increased urination
D. Increased heart rate
Passage 1 (Questions 34-40)

The Asian elephant brain is more massive than the brain of any other land animal, weighing over eleven pounds. The proportion of mass allocated to particular brain structures gives rise to the unique behaviors observed in elephants. For example, the elephant hippocampus occupies 0.7% of the structure of the midbrain, compared to 0.5% in humans, and the Asian elephant has a larger cerebral cortex volume.

Spontaneous problem solving, without trial and error behavior, has been observed in humans and other animals, while it has not been observed in elephants. To investigate spontaneous problem solving in elephants, researchers gave three Asian elephants access to objects and observed whether the elephants would use the objects to acquire either 1) food that was out-of-reach, or 2) enrichment objects.

The researchers allowed the elephants approximately twenty minutes to problem solve. The female elephants did express interest in the food, but they did not attempt to use any provided tools to obtain the food. All of the elephants had been trained to stand on plastic cubes during a circus performance. These same cubes were made available during the experiment, but the only elephant who rolled the cube over to the out-of-reach food was a seven-year-old male. This male was also observed using “cube-like” tools to gain access to other enrichment items in subsequent trials. Tool usage data from the experiment are shown in Table 1.

Table 1 Usage of tools to acquire enrichment objects or food

<table>
<thead>
<tr>
<th>Age/Sex</th>
<th>Tool Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>31/Female</td>
<td>No</td>
</tr>
<tr>
<td>61/Female</td>
<td>No</td>
</tr>
<tr>
<td>7/Male</td>
<td>Yes</td>
</tr>
</tbody>
</table>


34. The difference in tool usage between the male elephant and the female elephants can best be explained by which principle?

A. Availability heuristic
B. Deductive reasoning
C. Trial and error learning
D. Functional fixedness

35. It has been demonstrated that some elephants experience flashbacks of traumatic experiences such as being hunted or corralled. These flashbacks have been shown to mimic the systemic symptoms of post-traumatic stress disorder (PTSD) in humans. The enlargement of which brain structure in Asian elephants is likely associated with these pseudo-PTSD flashbacks?

A. Broca’s Area
B. Hippocampus
C. Reticular Formation
D. Wernicke’s Area

36. Which experimental result would provide the most support for the hypothesis that the difference in tool usage was age-related, rather than gender-related?

A. When an eight-year-old female elephant is exposed to the same experimental conditions she does not attempt to use the tools provided.
B. When a forty-year-old male elephant is exposed to the same experimental conditions he successfully uses tools to gain access to the out of reach food.
C. When another seven-year-old male is exposed to the same experimental conditions he does not attempt to use the tools provided.
D. When a fifty-year-old male is exposed to the same experimental conditions he does not attempt to use the tools provided.
37. In a follow-up experiment, the researchers allowed the elderly female elephants to be in the same experimental environment as the male elephant when he used tools to access food. Afterward, both females were observed using tools to gain access to food. Female elephants were able to use tools in the follow-up experiment as a result of:

A. operant conditioning.
B. observational learning.
C. classical conditioning.
D. nativist learning.

38. The male elephants’ use of “cube-like” tools to obtain enrichment objects demonstrates that the male elephants did not exhibit which cognitive bias apparently held by the female elephants?

A. Availability heuristic
B. Functional fixedness
C. Deductive reasoning
D. Inductive reasoning

39. Compared to the sixty-one-year-old elephant, the thirty-one-year-old elephant’s brain is likely:

A. larger and more plastic.
B. smaller and more plastic.
C. larger and less plastic.
D. smaller and less plastic.

40. Given the high degree of reasoning displayed in elephant problem solving, which region of the brain is most likely to be functionally advanced in elephants?

A. Amygdala
B. Hippocampus
C. Hypothalamus
D. Cerebral cortex