



Psychology 2 Question Set Key

- 1) **D;** Answers A and B are incorrect, D-amphetamine is a stimulant not a depressant. Answer C is incorrect, agonizing the hyperactive symptoms of an ADHD child would be counterproductive. Answer D is correct, a number of ADHD medications function to overwhelm the balance between the sympathetic and parasympathetic nervous systems causing a "reset" to a more desired balance between the two nervous systems.
- 2) **C;** Working memory is the primary memory limitation to problem solving. Thinking or comparing two items, visualizing a problem, or even remembering a question stem are all items that contribute to the working memory load, or cognitive load, associated with problem solving. Answer A is incorrect, semantic memory is a form of long term memory and is not as closely associated with cognitive load as working memory capacity. Answer B is incorrect, rote memory is associated with recall of facts, which could be a contributor to working memory load, but is not as good of an answer as working memory. Answer D is incorrect, state-dependent memory is only applicable when we know that the scenario referenced occurred in a specific environment, which is information we have not been given by the question stem.
- 3) **A;** The anchoring heuristic involves giving higher priority to the first piece of information received and framing subsequent information around it. In this instance the first piece of information received is the thirty thousand dollar car, and when offered this thirty thousand dollar car for twenty-five thousand dollars, the second piece of information, the consumer orients this information around the thirty thousand dollar price, not a market value for the car. The person in the question stem has anchored any new information around the thirty thousand dollar price. Answer B is incorrect, the availability heuristic is favoring the most easily recalled or imagined solution or shortcut to making a decision or judgment rather than orienting oneself around the first piece of information encountered. Answer C is incorrect, intuition is trusting ones gut feeling, and is not as applicable as the anchoring heuristic. Answer D is incorrect, inductive reasoning needs premises linked together to make a general conclusion.
- 4) **A;** The gamblers fallacy as referenced in the stem is an example of illogical thinking based on a misunderstanding concerning the law of large numbers which is a principle in statistics that states that the larger the sample size, the more likely it is that values obtained from the sample are similar to the actual values for the population. This misunderstanding leading to illogical thinking is an example of cognitive bias (Answer A). Answer B is incorrect, functional fixedness is related to only being able to use an object to solve a problem in ways that one has seen before. Answer C is incorrect, a mental set is best exemplified by using the same thinking pattern to solve multiple different problems, which does not match the scenario presented in the stem. Answer D is incorrect, the gamblers fallacy does not result from solving a problem in the first way imagined.
- 5) **C;** Functional fixedness is when one can only use an object/tool in either predefined ways or in a way that one has used the tool before. In this situation, the requisite for functional fixedness is understanding how the tool *should* be used. Answer A is incorrect, this reasoning would indicate the 7-year old does not have functional fixedness. Answer B is incorrect, this reasoning would indicate the 5-year old does have functional fixedness. Answer D is incorrect, this reasoning would indicate that the 7-year old does not have functional fixedness.
- 6) **D;** The availability heuristic in this situation is illustrated by the fact the professor is using the most easily imagined solution, lectures, to solve a problem. Answer A is incorrect, the typicality effect is primarily used to describe recall rates based on how typical an example of a concept is, and in a problem solving scenario, such as this stem, the availability heuristic is a better answer. Answer B is incorrect, there is no information in the stem indicating a difference in inductive reasoning patterns or abilities between the professors. Answer C is incorrect, the first piece of information the second professor was given was to use interactive group classrooms, which the professor rejected.
- 7) **B;** Prettiness is not a quantifiable characteristics and is therefore subjective (roman numeral II). Roman numeral I is incorrect in that the racial or ethnic identification of the women cannot be determined. All images are in black and white. Roman numeral III is incorrect, having an algorithmic question on an IQ test would not be an inherent flaw. Thus, only Statement II is true and B is the best answer.
- 8) **C;** In the scenario described in the stem, the brain surgeon is manipulating which areas of the brain are being electrically stimulated (independent variable) and measuring the resulting emotions elicited by subjects (dependent variable). The fact that the subjects are feeling such diverse emotions limits how specific of a claim we can support, but Answer C is reasonably within the scope of the new evidence provided. Answer A is

incorrect, the surgeon is shocking the patient's brain with an electrical probe and observes emotional changes, which is not an instinctive response from the hypothalamus. Answer B is incorrect, there is no information in the stem indicating whether higher order function was increased or decreased by the surgeon's actions, and the electrical shocks are being applied to the limbic system, not the region of the brain responsible for higher order function (i.e., cerebral cortex). Answer D is incorrect, this is too specific of a conclusion based upon the evidence given in the stem. While one could infer through several steps to arrive at the limbic results supporting the limbic system having a role in motivation, Answer C requires less inference and is inclusive of all the findings presented in the stem.

- 9) C;** Hypoglycemia is associated with increased sympathetic nervous system activity, which can be induced by stress. Low blood sugar can lead to such stress, and Answer C identifies this fact. Answers A and B are incorrect, the stem is referencing low blood sugar not high (hyperglycemia). Answer D is incorrect, while low blood sugar levels do cause the release of glucagon, this answer choice does not establish any connection between glucagon and night terrors.
- 10) B;** This is a LEAST likely question, which should be written down on your scratch paper, and thus any answer choice that *is* likely should be excluded. Answer B is correct, chronic sleep deprivation is associated with HIGH blood pressure, not low blood pressure. Answer A is incorrect, high blood sugar is associated with chronic sleep deprivation. Answer C is incorrect, chronic sleep deprivation is associated with decreased cognitive function. Answer D is incorrect, chronic sleep deprivation is associated with depression.
- 11) D;** The ability to display empathy, which is analogous to the information displayed in the stem, is most closely associated with interpersonal intelligence, which is characterized by sensitivity to the moods, feelings, temperaments, etc. of others.. Answer A is incorrect, intrapersonal intelligence is related to one's ability to be aware of their *own* emotions, not those of others. Answer B is incorrect, ethnic intelligence is not an actual psychological term, and is thus incorrect. Answer C is incorrect, visual-spatial intelligence is related to spatial orientation, not empathetic abilities.
- 12) A;** Night terrors are associated with increased sympathetic nervous system activity, which would most likely result in adrenaline secretion. Answer B is incorrect, oxytocin release is associated with uterine contractions and milk let-down. Answer C is incorrect, melatonin is the hormone that helps one fall asleep and stay asleep, which is the opposite of a night terror. Answer D is incorrect, dopamine is not as likely as adrenaline to be positively correlated with night terrors simply because of the linkage between night terrors and increased sympathetic nervous system activity.
- 13) C;** The children in the question stem are exhibiting varying degrees of object permanence, the cognitive ability associated with knowing that when an object/person is out of sight, it does not disappear from existence. One common test among infants used to judge the degree of object permanence includes hiding their toys underneath a blanket or playing peekaboo, both of which are analogous to the scenario presented in the stem. Object permanence is a milestone achieved in Piaget's sensorimotor stage, making Answer C correct. Answer A is incorrect, the milestone associated with the concrete operational stage is the ability to think logically about physical objects and the ability to add and subtract. Answer B is incorrect, the formal operational stage is associated with the development of abstract and hypothetical reasoning abilities. Answer D is incorrect, the preoperational stage is associated with a child learning to pretend.
- 14) B;** The first piece of information concerning the child's cereal indicates the child has developed object permanence (see above explanation for further information on object permanence), but the second piece of information indicated the child has yet to develop the concept of conservation, which is the understanding that quantity remains the same despite changes in the shape of its container. Examples of this include the piece of evidence presented in the stem regarding the milk glasses. The development of conservation is associated with the preoperational stage. Answer A is incorrect, the operational and concrete operational stages are both beyond conservation and object permanence (see above explanation). The developmental milestone associated with the concrete operational stage of cognitive development is the ability to think logically about physical objects and the ability to add and subtract. Also, the formal operational stage of cognitive development is associated with the development of abstract and hypothetical reasoning abilities. Answer C is incorrect, the sensorimotor stage is associated with object permanence, which the child has mastered according to the stem. Answer D is incorrect, reversibility and the systematic approach to problem solving are cognitive abilities far beyond the development of the child in the scenario discussed in the question stem.
- 15) C;** Cognitive dissonance is the uncomfortable feeling associated with holding two conflicting beliefs. A person who is an expert in their field or expresses their particular belief frequently is less likely to experience cognitive dissonance. Answer C is correct, the physics student is not an expert in his field, and is given valid information that is contrary to his opinion. This would likely induce cognitive dissonance until the two contrary beliefs were reconciled or one belief (the false belief about the moon) was altered. Answer A is incorrect, a priest can be considered an expert in his field and one who expresses his beliefs frequently, and is thus unlikely to

experience cognitive dissonance from being handed a pamphlet on atheism. Answer B is incorrect, the two scenarios presented in the answer choice do not represent conflicting beliefs. Answer D is incorrect, the professor is an expert in his field and is unlikely to experience cognitive dissonance from a suggested correction in his mechanism.

- 16) C;** The problem-solving theory of dreams suggests that dreaming evolved because of an increase in fitness associated with those who experience dreams. If people can neither recall their dreams nor dream about the day's problems, then the problem-solving theory of dreams would be called into question, which excludes Answers A and B and makes Answer C the best answer. Answer D is incorrect, the information in the answer choice does not relate to the problem-solving theory of dreaming but rather to an aspect of Freud's theory, and thus does not answer the question presented.
- 17) D;** In the scenario presented in the question stem, the man is behaving in a manner contrary to his beliefs by purchasing the hybrid sedan, which is the cause of his cognitive dissonance. In order to reduce the cognitive dissonance he is experiencing, he would need to either alter his beliefs or behavior to ensure they were consistent with each other. Answers A, B, and C are incorrect, these answer choices are all examples of the man attempting to alter his beliefs by legitimizing his purchase of the hybrid by comparing the hybrid's desirable characteristics to the undesirable characteristics of the SUV. Answer D is correct, this is the lone answer which is actually *reinforcing* the man's desire to purchase the SUV over the hybrid.
- 18) C;** Attitude change can be promoted by 1) attractiveness of the source (which could be physical attractiveness or perceived credibility), 2) a balanced, or unbiased, message and, 3) moderate self-esteem of the target. The stem indicates that an attractive source is delivering the message, and Answer C references a balanced message to a target with moderate self-esteem, which are optimal conditions. Answer A is incorrect, high self-esteem inhibits attitude change. Answer B is incorrect, both high self-esteem and biased messages inhibit attitude change. Answer D is incorrect, both low self-esteem and biased messages inhibit attitude change.
- 19) C;** The central route of attitude change involves being persuaded by the arguments or facts presented, the peripheral route of attitude change involves being persuaded by factors other than the facts or arguments, such as liking the source's voice or being awed by their credibility. Answers A, B, and D are all central route techniques as they are based on facts, study findings, or scientific reasoning. Answer C may be an uncomfortable feeling correct answer, but the scenario in the answer choice is analogous to hiring a celebrity endorsement, in that hiring a PhD has nothing to do with the facts or arguments concerning the attitude change.
- 20) C;** Self-Efficacy describes a person's own concept of their abilities to perform tasks or succeed, and thus Answer C is the best answer. Answer A is incorrect, Self-Concept is a broad term used to describe the collection of beliefs, feelings, and perceptions a person has about themselves. While Self-Efficacy contributes to a person's Self-Concept, the statement in the question stem is most *directly* and best described as relating to a person's Self-Efficacy. Answer B is incorrect, Self-Identity describes the characteristics a person attributes to themselves, and is more likely to be reflected by a statement such as "I am a successful person". Answer D is incorrect, Self-Esteem describes a person's overall sense of self-worth, but is more likely going to be reflected by a statement such as "I feel good about being successful".
- 21) B;** This is a LEAST likely question, meaning any answer that is likely to occur is incorrect. If an infant's caregiver provides constant and predictable care the infant is likely to develop trust, and move on from the trust vs. mistrust stage and develop the virtue of hope. However, the scenario in the stem is the *opposite* of this, meaning the infant will likely develop mistrust and fear. Answer A is incorrect, the child is likely to develop fear. Answer C is incorrect, the child is likely to develop mistrust. Answer D is incorrect, while not experiencing the outcome of a certain stage can hinder the movement through other developmental stages, it does not *mandate* that one cannot progress through the other stages. Answer B is the most direct outcome that the child will likely not achieve and is thus a better answer than Answer D.
- 22) B;** A distinguishing characteristic of the differing theories of emotion is the order in which physiological arousal and emotion interact with each other, for example the Canon-Bard theory proposes that physiological arousal and emotion occur *at the same time* (Answer B). Answer A is incorrect, this statement describes the James-Lange theory of emotion, where arousal is followed by emotions. Answer C is incorrect, this statement describes the Schacter-Singer theory of emotion, which involves the interpretation of arousal prior to the perceived emotions. Answer D is incorrect, the parasympathetic nervous system is not associated with arousal nor emotional responses.
- 23) C;** The Schacter-Singer theory proposes that the interpretation of physiological arousal occurs prior to the perceived emotions (Answer C). Answer A is incorrect, this statement describes the James-Lange theory of emotion, where arousal is followed by emotions. Answer B is incorrect, this statement describes the Canon-Bard theory of emotion, which proposes that physiological arousal and emotion occur at the same time. Answer D is incorrect, the parasympathetic nervous system is not associated with arousal nor emotional responses.

- 24) A;** The James-Lange theory of emotion proposes that arousal is followed by emotions (Answer A). Answer B is incorrect, this statement describes the Canon-Bard theory of emotion, which proposes that physiological arousal and emotion occur at the same time. Answer C is incorrect, this statement describes the Schacter-Singer theory of emotion, which proposes that the interpretation of physiological arousal occurs prior to the perceived emotions. Answer D is incorrect, the parasympathetic nervous system is not associated with arousal nor emotional responses.
- 25) D;** An implicit memory is an unconscious encoding of an emotional experience associated with an event, and the recall of said emotion during future events. This corresponds to Roman Numerals II and III. Roman Numeral I is incorrect, implicit memories are unconscious memories.
- 26) D;** This is a NOT question, so any answer that *is true* is incorrect. Answer A is incorrect, skin temperature is lower during fear and higher during happiness. Answers B and C are incorrect, heart rate is higher during fear and lower during happiness. Answer D is correct, both the emotions of happiness and fear are associated with increased blood pressure.
- 27) D;** This is an EXCEPT question, so any answer that would be associated with the chronic stress of a hostile home environment is incorrect. Answer A is incorrect, chronic stress is correlated with an increased risk of heart disease. Answer B is incorrect, chronic stress is associated with high blood pressure. Answer C is incorrect, chronic stress is associated with the development of ulcers. Answer D is correct, chronic stress is associated with a *decreased* immune response, not an *increased* immune response.
- 28) D;** An extrinsic motivator is a reward outside of the internal satisfaction associated with accomplishing a task. Answers A, B, and C do not reference any sort of motivators, as they are not associated with a reward for a behavior. Answer D is thus the best answer, as the father is providing the motivation (extrinsic) for a desired behavior.
- 29) B;** This question can be answered with a simple evaluation of whether 1) the stem is presenting a positive or negative scenario according to Erickson's Theory of Psychosocial development and 2) whether each answer choice is a positive or negative outcome in general. In the scope of this stem, not allowing a child to play with other children can be interpreted as a negative scenario, and thus the answer choices need to match a negative outcome. Answers A, C, and D are all positive outcomes, and are thus incorrect. Answer B is the only negative outcome, and is thus correct.
- 30) B;** The professor in the stem has sampled a population of *accepted* premedical students and has concluded that *all* premedical students can be represented by his sample. This professor is generalizing his findings about a distinctly different sub-population, those accepted into medical school, to an entire population, those not accepted into medical school and those accepted into medical school. This is an example of a study lacking generalizability, and thus lacking external validity (Answer B). Answer A is incorrect, it would be difficult to generalize this finding to other populations as mentioned previously. Answer C is incorrect, having a high degree of internal validity would not be a flaw in research design, but rather a desirable characteristic of a research study. Answer D is incorrect, using observational methods does not inherently make a study flawed.
- 31) C;** A distinguishing characteristic of the differing theories of emotion is the order in which physiological arousal and emotion interact with each other, for example does arousal *directly* influence emotion? Do arousal and emotion simply occur simultaneously? Or is arousal processed and perceived as emotions? The study presented in the stem isolates the level of physiological arousal, because each subject is experiencing identical stimuli, and finds that these identical stimuli are producing different emotions. This would seem to indicate that there is a difference in the perception of these stimuli which leads to a different emotional experience. The Schacter-Singer theory posits the interpretation of physiological arousal prior to the perceived emotions is what leads to the emotions experienced, which matches the scenario presented in the stem and makes Answer C the best answer. Answer A is incorrect, the James-Lange theory of emotion states arousal is followed directly by emotions. Answer B is incorrect, the Canon-Bard theory proposes that physiological arousal and emotion occur *at the same time*. Answer D is incorrect, the incentive theory of emotion is not a valid theory of emotion.
- 32) C;** Persons suffering from chronic sleep deprivation most directly need prolonged periods of undisturbed rest. The most likely consequence of sleep deprivation is thus upregulations of physiological responses which can compensate for a lack of sleep. Micro-sleeps occur in states of sleep deprivation and are instances of 'sleep' that last only a few seconds. They are marked by drooping eyelids, or the inability to recall information from immediate happenings such as information from a lecture. These facts make Answer C the best answer. Answer A is incorrect, schizophrenic episodes would require an imbalance in dopamine regulations which is not a likely consequence of sleep deprivation. Answer B is incorrect, as stated previously, an imbalance in dopamine levels is an unlikely consequence of sleep deprivation when compared to micro-sleeps. Answer D is incorrect, decreased cognitive function and judgment are associated with sleep deprivation, not increased.

- 33) A;** Melatonin serves as a signal which 1) helps one get to sleep and 2) helps one stay asleep. Thus, a melatonin injection would likely make a subject drowsy. Answer B is incorrect, increased melatonin levels would likely make it less difficult to sleep, not more difficult. Answer C is incorrect, melatonin is not associated with increased urination. Answer D is incorrect, melatonin would make one fall asleep which would more likely decrease a subject's heart rate, not increase it.
- 34) D;** Functional fixedness is a mental set in which an animal cannot use a tool to function outside of the intended or observed purpose. All of the elephants had previously stood on the cube-like objects, but only the male elephant saw the cube-like object as a solution to the problem of out of reach food, indicating that the two female elephants were displaying functional fixedness while the male elephant was not (Answer D). Answer A is incorrect, the availability heuristic refers to using shortcuts to solve a problem, but neither female elephant attempted to solve the problem of out of reach food even though they displayed interest in the food. Answer B is incorrect, if any type of reasoning would be used in this situation by the elephants, it would be inductive reasoning rather than deductive reasoning. Answer C is incorrect, the elephants did not display trial and error reasoning which involves exploring and manipulating elements of the problem, in this case the cube-like object, in an effort to determine the steps necessary to solve the problem or obtain the food that is out of reach.
- 35) B;** The information given in the passage details the percentage of volume occupied by the hippocampus in the midbrain. The hippocampus is associated with emotional experiences, and as the volumes discussed between elephants (0.7%) and humans (0.5%) are comparable, it would be reasonable to choose the hippocampus over the other structures listed. Answer A is incorrect, Broca's area is associated with the motor aspects of speech, not emotional responses. Answer C is incorrect, the reticular formation is associated with states of consciousness transitions such as sleeping and waking, not emotional responses. Answer D is incorrect, Wernicke's Area is associated with language comprehension, not emotional responses.
- 36) D;** The study presented in the passage presents two reasons why tool usage may have differed: 1) age, as the older elephants did not use tools and 2) gender as only female elephants did not use tools. In order to provide support for an age-related hypothesis over a gender-related hypothesis, we need a controlled comparison for gender, and to manipulate the independent variable of age. In more simple terms we need to demonstrate that either 1) a young female elephant can solve problems or 2) an old male elephant cannot solve problems. Answer D matches the second desirable scenario previously mentioned, and is thus correct. Answer A is incorrect, this finding would provide support for a gender-related hypothesis regarding tool usage because when we used a female of the same age as the male elephant who solved the problem, the female could not. Answer B is incorrect, this finding would provide support for a gender-related hypothesis regarding tool usage because when age was manipulated to provide a comparison to the female elephants the male elephant still solved the problem. Answer C is incorrect, this trial does not provide the comparison we needed because we would either need a young female elephant or an older male elephant.
- 37) B;** This is a clear example of observational learning. The female elephants were not able to solve the problem until the male elephant demonstrated the problem solving technique. Answers A and C are incorrect, conditioning requires a stimulus to be associated with a behavior, which is not the case in this scenario. Answer D is incorrect, nativist learning is a theory of language learning, which is not applicable to this scenario.
- 38) B;** This question is testing the exact same relationship established by the passage as question 34. Re-testing a relationship is not an uncommon occurrence in an MCAT passage, and is a testament to the importance of skillful passage reading and analysis. The male elephant did *not* display functional fixedness in that he used a tool with a previously understood function in a new way to solve a problem. Answer B is the best answer. Answer A is incorrect, as mentioned in the solution for question 34, the availability heuristic is not applicable in this situation because no shortcut was made in an attempt to solve a problem because no attempt was made to solve the problem by the female elephants. Answers C and D are incorrect, neither inductive reasoning nor deductive reasoning are cognitive biases.
- 39) A;** As an animal ages their brain becomes 1) smaller and 2) less plastic. Care should be taken in evaluating the stem as we are making a statement comparing the younger elephants' brain to the older elephants'. The younger elephant should have a larger, more plastic brain. This matches Answer A. Answer B is incorrect, the younger elephant should have a larger brain, not smaller. Answer C is incorrect, the younger elephants' brain should be more plastic, not less. Answer D is incorrect, the younger elephant should have both a larger and more plastic brain, not a smaller and less plastic.
- 40) D;** Reasoning and problem solving are functions associated with the cerebral cortex, making Answer D the best answer. Answer A is incorrect, the amygdala is associated with limbic system activities such as emotional response etc., and as such is not as good of an answer as the cerebral cortex. Answer B is incorrect, the hippocampus is associated with emotional responses, not reasoning. Answer C is incorrect, the hypothalamus is associated with regulating pituitary function, hunger, thirst, and emotion.