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| 1. The branch of science that is concerned with the study of the nervous system, especially the brain, is called:   |  |  |  | | --- | --- | --- | |  | a. | cognitive psychology. | |  | b. | neuroscience. | |  | c. | developmental psychology. | |  | d. | clinical psychology. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 2. Sarah is in training to be a neuroscientist. She is MOST likely studying which topic?   |  |  |  | | --- | --- | --- | |  | a. | how conflict affects marital happiness | |  | b. | which psychological test would best predict job success | |  | c. | the age at which children understand abstract concepts | |  | d. | brain development during adolescence |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 3. Psychologists are greatly interested in the biological bases of behavior. Which of these questions reflects this interest?   |  |  |  | | --- | --- | --- | |  | a. | Why do people choose specific careers? | |  | b. | Why do you get hungry? | |  | c. | Why do some people use social media, while others dislike it? | |  | d. | Why do people from different cultures have different values? |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 4. The branch of psychology that is focused on understanding the internal physical events and processes that correspond with our mental processes and behavior is called:   |  |  |  | | --- | --- | --- | |  | a. | biological psychology. | |  | b. | clinical psychology. | |  | c. | cognitive physiology. | |  | d. | forensic psychology. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 5. In general, neural messages are received by the \_\_\_\_\_ and transmitted by the \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | cell body; dendrites | |  | b. | axons; nucleus | |  | c. | dendrites; axon | |  | d. | axon; dendrites |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 6. The three types of neurons are:   |  |  |  | | --- | --- | --- | |  | a. | excitatory, inhibitory, and myelinated. | |  | b. | sensory, motor, and interneurons. | |  | c. | interneurons, glial cells, and motor cells. | |  | d. | glial cells, myelinated cells, and unmyelinated cells. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 7. Neurons are:   |  |  |  | | --- | --- | --- | |  | a. | found in primates and humans, but not in other animals. | |  | b. | highly specialized cells that receive and transmit information from one area of the body to another. | |  | c. | found only in the spinal cord and bone marrow. | |  | d. | highly specialized cells that produce myelin. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 8. How many neurons exist in the human brain?   |  |  |  | | --- | --- | --- | |  | a. | roughly 400,000 million | |  | b. | roughly 600 million | |  | c. | roughly 1 billion | |  | d. | roughly 90 billion |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 9. The \_\_\_\_\_ tell muscles whether to relax or contract.   |  |  |  | | --- | --- | --- | |  | a. | sensory neurons | |  | b. | glial cells | |  | c. | motor neurons | |  | d. | interneurons |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 10. Information from specialized cells in the sense organs is conveyed to the brain by:   |  |  |  | | --- | --- | --- | |  | a. | sensory neurons. | |  | b. | glial cells. | |  | c. | motor neurons. | |  | d. | interneurons. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 11. \_\_\_\_\_ convey information about the environment from the sense organs to the brain, and \_\_\_\_\_ communicate information to the muscles and glands.   |  |  |  | | --- | --- | --- | |  | a. | Interneurons; glial cells | |  | b. | Excitatory neurons; inhibitory neurons | |  | c. | Sensory neurons; motor neurons | |  | d. | Motor neurons; sensory neurons |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 12. The type of specialized cell whose main function is to communicate between neurons is a(n):   |  |  |  | | --- | --- | --- | |  | a. | interneuron. | |  | b. | glial cell. | |  | c. | motor neuron. | |  | d. | sensory neuron. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 13. \_\_\_\_\_ are the MOST prevalent neurons in the human nervous system.   |  |  |  | | --- | --- | --- | |  | a. | Interneurons | |  | b. | Motor neurons | |  | c. | Sensory neurons | |  | d. | Glial cells |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 14. Which of these statements about the properties of neurons is TRUE?   |  |  |  | | --- | --- | --- | |  | a. | All neurons are the same size and shape. | |  | b. | The size and shape of neurons vary a great deal, reflecting their specialized functions. | |  | c. | Sensory and motor neurons are the same size and shape, and interneurons are long and thin. | |  | d. | Motor neurons outnumber interneurons by almost 10 to 1. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 15. While making dinner, you accidentally place your hand directly on the hot stovetop. You reflexively take your hand off the hot stove quickly. \_\_\_\_\_ communicated to your brain that your skin was hot, while \_\_\_\_\_ communicated to your brain that you needed to move your hand away from the hot stove.   |  |  |  | | --- | --- | --- | |  | a. | Sensory neurons; motor neurons | |  | b. | Motor neurons; sensory neurons | |  | c. | Sensory neurons; interneurons | |  | d. | Interneurons; motor neurons |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 16. Which term refers to a structure that provides the energy needed for the neuron to function?   |  |  |  | | --- | --- | --- | |  | a. | cell body | |  | b. | myelin sheath | |  | c. | axon | |  | d. | dendrite |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 17. Most neurons have all of these parts, EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | association areas. | |  | b. | a cell body. | |  | c. | dendrites. | |  | d. | an axon. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 18. As a general rule, communication within a neuron progresses from the:   |  |  |  | | --- | --- | --- | |  | a. | axon to the dendrites to the cell body. | |  | b. | dendrites to the cell body to the axon. | |  | c. | axon to the cell body to the dendrites. | |  | d. | cell body to the axon to the nucleus. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 19. Information is transmitted along the axon:   |  |  |  | | --- | --- | --- | |  | a. | by glial cells. | |  | b. | at the speed of light, or 186,000 miles per second. | |  | c. | in the form of a brief electrical impulse. | |  | d. | by chemical substances called “neurotransmitters.” |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 20. The amount of information that a neuron can receive increases with the number of \_\_\_\_\_ that the neuron has.   |  |  |  | | --- | --- | --- | |  | a. | axons | |  | b. | cell bodies | |  | c. | glial cells | |  | d. | dendrites |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 21. Which part of the neuron receives messages from other neurons?   |  |  |  | | --- | --- | --- | |  | a. | the axon | |  | b. | the cell body | |  | c. | the dendrite | |  | d. | the myelin sheath |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 22. A neuron may have thousands of \_\_\_\_\_, but can have only one \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | dendrites; axon | |  | b. | dendrites; glial cell | |  | c. | axons; dendrite | |  | d. | glial cells; dendrite |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 23. What is the function of a neuron's axon?   |  |  |  | | --- | --- | --- | |  | a. | receive messages from other cells in the body | |  | b. | carry messages to other cells in the body | |  | c. | create energy for the cell | |  | d. | generate new cells |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 24. Which statement MOST accurately describes the length of axons?   |  |  |  | | --- | --- | --- | |  | a. | Most axons are several feet long. | |  | b. | Most axons are approximately one-tenth of an inch long. | |  | c. | The length of axons can range from a few thousandths of an inch to 3 or 4 feet. | |  | d. | The length of any particular axon depends on a person’s height. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 25. Which phrase accurately describes the nodes of Ranvier?   |  |  |  | | --- | --- | --- | |  | a. | a type of neuron that communicates information from one neuron to another | |  | b. | the synaptic vesicles that contain neurotransmitters | |  | c. | the ion channels in the membrane of a neuron's axon that open and close during an action potential | |  | d. | small gaps in the myelin sheath that covers some axons |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 26. The myelin sheath is an important part of the neuron because it:   |  |  |  | | --- | --- | --- | |  | a. | decreases the speed of neurotransmitters crossing the synaptic gap. | |  | b. | increases the speed at which neurons convey their messages. | |  | c. | provides support and nutrition to the dendrites. | |  | d. | inhibits the opening and closing of ion channels on the axon's membrane. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 27. When compared with neurons that do not have myelin, neurons with myelin:   |  |  |  | | --- | --- | --- | |  | a. | are unable to communicate with other neurons. | |  | b. | can communicate up to 50 times faster. | |  | c. | use much more energy. | |  | d. | do not have an axon. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 28. Oligodendrocytes form the \_\_\_\_\_, which is a fatty covering that is wrapped around the axons of some neurons.   |  |  |  | | --- | --- | --- | |  | a. | dendrites | |  | b. | astrocytes | |  | c. | myelin sheath | |  | d. | microglia |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 29. Multiple sclerosis is a disease that involves:   |  |  |  | | --- | --- | --- | |  | a. | the degeneration of the myelin sheath, which slows or interrupts the transmission of neural messages. | |  | b. | an abnormal increase in the thickness of the myelin sheath, blocking the release of neurotransmitters. | |  | c. | the gradual decline in the ability of neurons to produce neurotransmitters. | |  | d. | dendrites becoming brittle and breaking. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 30. Mya has recently been dealing with a common cold. You tell Mya that she likely has more \_\_\_\_\_ in their system right now to remove dead or damaged cells that are part of the brain’s immune response.   |  |  |  | | --- | --- | --- | |  | a. | oligodendrocytes | |  | b. | astrocytes | |  | c. | microglia | |  | d. | neurons |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 31. The MOST common glial cells in the brain are \_\_\_\_\_, and they provide neurons with structural support and nutrients.   |  |  |  | | --- | --- | --- | |  | a. | microglia | |  | b. | astrocytes | |  | c. | oligodendrocytes | |  | d. | sensory |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 32. Along with neurons, the human nervous system is made up of \_\_\_\_\_ cells.   |  |  |  | | --- | --- | --- | |  | a. | glial | |  | b. | repolarized | |  | c. | dendritic | |  | d. | depolarized |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 33. All of these are glial cells EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | microglia. | |  | b. | astrocytes. | |  | c. | oligodendrocytes. | |  | d. | interneurons. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 34. Which of these is TRUE of glial cells?   |  |  |  | | --- | --- | --- | |  | a. | They assist neurons by providing nutrition and structural support and by removing waste products. | |  | b. | They are neurons that specifically signal muscles to relax or contract. | |  | c. | They are neurons that are specialized for conveying information to the brain from receptor cells in the sense organs and internal organs. | |  | d. | They are a type of neuron whose primary function is to communicate information from one neuron to the next. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 35. Research into how the gut–brain connection can influence major depressive disorder has found all of these EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | people with depression have lower levels of beneficial bacteria in their microbiome. | |  | b. | the microbiome in people with depression can contribute to side effects from certain anti-depressant medications. | |  | c. | factors that alter the microbiome have been found to also contribute to the development of depression. | |  | d. | the microbiome of people with depression tends to have too much bacteria, resulting in symptoms of depression. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 36. The part of the human body with the largest number of neurons is the brain, with the \_\_\_\_\_ having the second largest number of neurons.   |  |  |  | | --- | --- | --- | |  | a. | heart | |  | b. | kidneys | |  | c. | stomach | |  | d. | spinal cord |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 37. Georgia has been working at a book store for the past few months. She has noticed a few teenagers coming in almost every day to the store, walking around, and not buying anything. She has also noticed that these teenagers have been wearing large backpacks that appear to be heavier when they are leaving. Georgia’s stomach does not feel good after seeing this happen a few times. What would you tell Georgia according to the Critical Thinking: The Gut–Brain Connection box?   |  |  |  | | --- | --- | --- | |  | a. | Her microbiome is producing too much of the neurotransmitters, acetylcholine and serotonin. | |  | b. | She is experiencing depression and should consult a psychologist. | |  | c. | The neurons in her gut are providing emotional input that the situation does not feel “right.” | |  | d. | Her gut is irritated because of too few bacteria and they should take a probiotic. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 38. As noted in: Critical Thinking: The Gut–Brain Connection box, ENS stands for?   |  |  |  | | --- | --- | --- | |  | a. | endocrine nervous system | |  | b. | excitatory nervous system | |  | c. | endorphin nervous system | |  | d. | enteric nervous system |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 39. The microbiome of the gut produces the neurotransmitters, \_\_\_\_\_ and \_\_\_\_\_. Both of these neurotransmitters are involved in cognitive and emotional processes.   |  |  |  | | --- | --- | --- | |  | a. | norepinephrine; dopamine | |  | b. | norepinephrine; serotonin | |  | c. | epinephrine; dopamine | |  | d. | epinephrine; serotonin |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 40. Which phrase describes resting potential?   |  |  |  | | --- | --- | --- | |  | a. | the length of time that a neuron is incapable of activating after an action potential | |  | b. | the term used to describe the polarization of the neuron | |  | c. | a state in which a neuron has a negative electrical charge of about −70 millivolts | |  | d. | a state in which a neuron has a negative electrical charge of −30 millivolts |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 41. The action potential is produced by:   |  |  |  | | --- | --- | --- | |  | a. | potassium ions flowing out of the interior of the axon. | |  | b. | sodium ions rushing into the interior of the axon. | |  | c. | sodium ions rushing out of the interior of the axon. | |  | d. | potassium ions flowing into the interior of the axon. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 42. The action potential is BEST defined as:   |  |  |  | | --- | --- | --- | |  | a. | a brief chemical impulse that transmits information along the axon of a neuron. | |  | b. | the +3- to +7-volt capacity of a typical motor neuron. | |  | c. | the ability of a motor neuron to either contract or relax a muscle group. | |  | d. | a brief electrical impulse that transmits information along the axon of a neuron. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 43. The analogy used in the book referred to the axon membrane as a “gatekeeper.” This means that the membrane:   |  |  |  | | --- | --- | --- | |  | a. | determines whether an action potential will “pass” through the axon. | |  | b. | controls the balance of positive and negative ions in the interior and the exterior of the axon. | |  | c. | operates in an “all-or-none” fashion, either opening to allow neurotransmitters to pass or not. | |  | d. | uses the nodes of Ranvier to allow some ions to move out of the axon and neurotransmitters to move into the axon. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 44. The stimulus threshold of the neuron refers to the:   |  |  |  | | --- | --- | --- | |  | a. | minimum level of stimulation required to activate a particular neuron. | |  | b. | 3-to-1 ratio of positive-to-negative ions required for the neuron to transmit information to the next neuron. | |  | c. | positive electrical charge on the neuron's interior just prior to neuron activation. | |  | d. | minimum level of stimulation required to inhibit a neuron from firing. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 45. What occurs when a neuron is polarized?   |  |  |  | | --- | --- | --- | |  | a. | The exterior fluid surrounding the neuron is more negatively charged than the interior of the neuron. | |  | b. | An action potential will travel down the dendrites, causing the release of neurotransmitters. | |  | c. | The electrical charge across the neuron's membrane is balanced with the same charge outside as inside. | |  | d. | The interior of the neuron is more negatively charged than the exterior fluid surrounding the neuron. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 46. When sodium ions enter the axon's interior, causing a brief positive electrical impulse:   |  |  |  | | --- | --- | --- | |  | a. | an action potential occurs. | |  | b. | resting potential begins. | |  | c. | the nodes of Ranvier are polarized. | |  | d. | the axon is depolarized. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 47. What creates the action potential?   |  |  |  | | --- | --- | --- | |  | a. | movement of neurotransmitters across the ion channels | |  | b. | opening and closing of the nodes in the myelin sheath | |  | c. | reuptake of the neurotransmitters into the vesicles | |  | d. | movement of ions across the membrane of the axon |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 48. Which of these represents the sequence of ion movements that causes an action potential?   |  |  |  | | --- | --- | --- | |  | a. | sodium ions across the axon membrane into the axon and then potassium ions across the axon membrane out of the axon | |  | b. | sodium ions across the axon membrane out of the axon and then potassium ions across the axon membrane into the dendrite | |  | c. | potassium ions across the axon membrane out of the dendrite and then sodium ions across the axon membrane into the axon | |  | d. | sodium ions across the axon membrane out of the axon and then potassium ions across the axon membrane into the axon |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 49. What is the result of sodium ions moving across the axon's membrane during an action potential?   |  |  |  | | --- | --- | --- | |  | a. | The inside of the axon changes to a negative electrical charge. | |  | b. | The outside of the axon changes to a positive electrical charge. | |  | c. | The inside of the axon changes to a positive electrical charge. | |  | d. | The nodes of Ranvier close. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 50. What keeps an action potential continuing down an axon?   |  |  |  | | --- | --- | --- | |  | a. | At each successive node of the axon, the action potential is regenerated by depolarization and the movement of ions across the axon's membrane. | |  | b. | Neurotransmitters are constantly being released to generate the action potential at each successive node of the axon. | |  | c. | Action potentials are conducted down the axon just as electricity is conducted through a wire. | |  | d. | Ion channels open and close at the nodes of Ranvier, allowing neurotransmitters to enter the axon and regenerate an action potential at each node. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 51. An action potential is self-sustaining, which is in reference to the \_\_\_\_\_ law that states a neuron is either sufficiently stimulated for an action potential to occur or it is not and an action potential does not occur.   |  |  |  | | --- | --- | --- | |  | a. | yes-or-no | |  | b. | action-resting | |  | c. | all-or-none | |  | d. | potassium-sodium |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 52. Depolarization occurs when \_\_\_\_\_ channels open, resulting in the inside of the cell becoming more positively charged. Repolarization occurs when \_\_\_\_\_ channels open, resulting in the inside of the cell becoming more negatively charged.   |  |  |  | | --- | --- | --- | |  | a. | potassium; sodium | |  | b. | calcium; chloride | |  | c. | sodium; potassium | |  | d. | sodium; calcium |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 53. The electrical charge of a neuron when it is in the resting potential state is about:   |  |  |  | | --- | --- | --- | |  | a. | +30 millivolts. | |  | b. | −70 millivolts. | |  | c. | −30 millivolts. | |  | d. | −10 volts. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 54. The all-or-none law refers to the fact that:   |  |  |  | | --- | --- | --- | |  | a. | the myelin sheath either completely covers an axon or it does not. | |  | b. | the resting potential occurs only when the neuron is completely depolarized. | |  | c. | either the neuron is sufficiently stimulated and an action potential occurs or it is not sufficiently stimulated and the action potential does not occur. | |  | d. | a neurotransmitter is completely reabsorbed by the presynaptic neuron or it is dissolved in the synaptic gap. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 55. Which statement describes what occurs during a refractory period?   |  |  |  | | --- | --- | --- | |  | a. | Neurons become depolarized. | |  | b. | Neurons become repolarized. | |  | c. | Neurotransmitters are blocked by dendrites. | |  | d. | Myelin sheath is produced. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 56. The fastest neurons in the human body communicate their messages at:   |  |  |  | | --- | --- | --- | |  | a. | the speed of light, or 186,000 miles per second. | |  | b. | speeds up to 270 miles per hour. | |  | c. | the speed of sound, or about 770 miles per hour. | |  | d. | about 10 miles per hour. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 57. All of these are factors that affect the speed at which the action potential is conducted along a neuron's axon EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | the diameter of the axon. | |  | b. | whether the axon is myelinated or not. | |  | c. | the distance the signal needs to travel. | |  | d. | the number of ions crossing the axon membrane. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 58. Which of these is TRUE about axons?   |  |  |  | | --- | --- | --- | |  | a. | Neurons that have a myelin sheath do not have an axon. | |  | b. | Every neuron has an axon. | |  | c. | Axons receive information from dendrites. | |  | d. | Myelinated axons fire faster than neurons with unmyelinated axons. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 59. How are action potentials different in a myelinated axon and an unmyelinated axon?   |  |  |  | | --- | --- | --- | |  | a. | Action potentials are slower in myelinated axons because the myelin sheath interferes with the transfer of ions across the membrane. | |  | b. | Action potentials “jump” from node to node in myelinated axons rather than progressing down the entire length of the axon. | |  | c. | Action potentials have greater electrical charges in myelinated axons. | |  | d. | Action potentials in myelinated axons operate according to the “all-or-none law” but action potentials in unmyelinated axons do not. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 60. Reuptake allows neurotransmitters to be:   |  |  |  | | --- | --- | --- | |  | a. | destroyed. | |  | b. | strengthened. | |  | c. | protected. | |  | d. | reused. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 61. The presynaptic neuron and the postsynaptic neuron are separated by a tiny, fluid-filled space called the:   |  |  |  | | --- | --- | --- | |  | a. | myelin sheath. | |  | b. | synaptic gap. | |  | c. | node of Ranvier. | |  | d. | ion channel. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 62. Communication between two neurons occurs at the:   |  |  |  | | --- | --- | --- | |  | a. | nucleus. | |  | b. | node of Ranvier. | |  | c. | ion channel. | |  | d. | synapse. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 63. Which of these BEST defines a neurotransmitter?   |  |  |  | | --- | --- | --- | |  | a. | a chemical messenger that crosses the synaptic gap between neurons | |  | b. | an electrical impulse that crosses the synaptic gap between neurons | |  | c. | a chemical communicator manufactured by glial cells | |  | d. | a microscopic channel through which sodium and potassium ions pass |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 64. Synaptic vesicles contain:   |  |  |  | | --- | --- | --- | |  | a. | hormones. | |  | b. | ions. | |  | c. | neurotransmitters. | |  | d. | receptors. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 65. In synaptic transmission, the action potential stimulates the release of:   |  |  |  | | --- | --- | --- | |  | a. | potassium ions by the synaptic vesicles. | |  | b. | neurotransmitters by the synaptic vesicles. | |  | c. | myelin by the glial cells. | |  | d. | sodium ions by the dendrites. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 66. What happens to the neurotransmitters that fail to attach to a receptor site?   |  |  |  | | --- | --- | --- | |  | a. | In a process called “reuptake,” they are reabsorbed by the presynaptic neuron and recycled. | |  | b. | They bind with potassium ions. | |  | c. | They are destroyed by glial cells. | |  | d. | In a process called “depolarization,” they are neutralized by negative ions. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 67. Like a key in a lock, the shape of the \_\_\_\_\_ must fit the \_\_\_\_\_ to affect the postsynaptic neuron.   |  |  |  | | --- | --- | --- | |  | a. | dendrite; axon terminal | |  | b. | neurotransmitter; axon terminal | |  | c. | neurotransmitter; receptor site | |  | d. | synaptic vesicle; receptor site |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 68. MOST neurons produce:   |  |  |  | | --- | --- | --- | |  | a. | all neurotransmitters. | |  | b. | only a specific neurotransmitter. | |  | c. | ions—neurons cannot produce neurotransmitters. | |  | d. | either one type of neurotransmitter or even three or more neurotransmitters. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 69. Presynaptic neuron is to postsynaptic neuron as:   |  |  |  | | --- | --- | --- | |  | a. | synapse is to neurotransmitters. | |  | b. | receptors are to neurotransmitters. | |  | c. | electrical communication is to chemical communication. | |  | d. | message-sending neuron is to message-receiving neuron. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 70. The MOST common form of communication between neurons is:   |  |  |  | | --- | --- | --- | |  | a. | chemical. | |  | b. | electrical. | |  | c. | magnetic. | |  | d. | hormonal. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 71. All motor neurons manufacture:   |  |  |  | | --- | --- | --- | |  | a. | acetylcholine. | |  | b. | dopamine. | |  | c. | serotonin. | |  | d. | L-dopa. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 72. A person with Parkinson's disease would take medication that increases \_\_\_\_\_ levels to help control their symptoms.   |  |  |  | | --- | --- | --- | |  | a. | endorphin | |  | b. | serotonin | |  | c. | GABA | |  | d. | dopamine |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 73. Ailani enjoys smoking nicotine. The increase in pleasure she experiences when smoking is related to increases in the activity of which neurotransmitter?   |  |  |  | | --- | --- | --- | |  | a. | dopamine | |  | b. | serotonin | |  | c. | acetylcholine | |  | d. | GABA |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 74. Rico experiences poor balance and muscle tremors. He has been diagnosed with Parkinson's disease, a disease caused by the degeneration of neurons that produce:   |  |  |  | | --- | --- | --- | |  | a. | GABA. | |  | b. | norepinephrine. | |  | c. | dopamine. | |  | d. | acetylcholine. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 75. When neurotransmitters communicate an excitatory message to the postsynaptic neuron:   |  |  |  | | --- | --- | --- | |  | a. | the postsynaptic neuron is *more* likely to generate an action potential. | |  | b. | the presynaptic neuron is *more* likely to generate an action potential. | |  | c. | the presynaptic neuron is *less* likely to generate an action potential. | |  | d. | the postsynaptic neuron is *less* likely to generate an action potential. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 76. When neurotransmitters communicate an inhibitory message to the postsynaptic neuron:   |  |  |  | | --- | --- | --- | |  | a. | the postsynaptic neuron is *more* likely to generate an action potential. | |  | b. | the presynaptic neuron is *more* likely to generate an action potential. | |  | c. | the presynaptic neuron is *less* likely to generate an action potential. | |  | d. | the postsynaptic neuron is *less* likely to generate an action potential. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 77. Prozac and cocaine are very different drugs, but they achieve their effects through the same mechanism of action. What is that mechanism?   |  |  |  | | --- | --- | --- | |  | a. | Both drugs block GABA. | |  | b. | Both drugs mimic GABA. | |  | c. | Both drugs interfere with the reuptake of certain neurotransmitters. | |  | d. | Both drugs occupy the receptor sites for opiates. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 78. Rachel had injections of Botox in an attempt to eliminate facial wrinkles. Botox contains minute amounts of botulinum, an extremely lethal substance produced by bacteria; it works by blocking the release of a specific neurotransmitter from motor neurons, causing muscle paralysis. This neurotransmitter, found in all motor neurons, is called:   |  |  |  | | --- | --- | --- | |  | a. | dopamine. | |  | b. | serotonin. | |  | c. | acetylcholine. | |  | d. | GABA. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 79. All of these are true of acetylcholine EXCEPT it is:   |  |  |  | | --- | --- | --- | |  | a. | found in all motor neurons. | |  | b. | involved in anxiety and depression. | |  | c. | the first discovered neurotransmitter. | |  | d. | depleted in those with Alzheimer’s disease. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 80. Which of these neurotransmitters is implicated in Alzheimer's disease?   |  |  |  | | --- | --- | --- | |  | a. | serotonin | |  | b. | dopamine | |  | c. | acetylcholine | |  | d. | GABA |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 81. Bernardo's grandmother has begun to experience memory loss and an inability to control muscle contractions. She also has significant decreases in intellectual functioning. Bernardo's grandmother is exhibiting the effects of reduced brain levels of the neurotransmitter:   |  |  |  | | --- | --- | --- | |  | a. | GABA. | |  | b. | serotonin. | |  | c. | dopamine. | |  | d. | acetylcholine. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 82. \_\_\_\_\_ is to Alzheimer's disease as \_\_\_\_\_ is to Parkinson's disease.   |  |  |  | | --- | --- | --- | |  | a. | Dopamine; acetylcholine | |  | b. | Acetylcholine; dopamine | |  | c. | Serotonin; norepinephrine | |  | d. | Norepinephrine; serotonin |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 83. Iman has food poisoning and has been ill for hours. Iman’s stomach muscles seem to be spasming because they keep contracting. Iman’s stomach muscles contracting too much is the result of:   |  |  |  | | --- | --- | --- | |  | a. | motor neurons releasing more acetylcholine. | |  | b. | sensory neurons releasing more acetylcholine. | |  | c. | motor neurons releasing more serotonin. | |  | d. | sensory neurons releasing less serotonin. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 84. Hunters use arrows dipped in the poison curare which blocks the acetylcholine receptor sites in the brains of animals. Such a reaction will cause the animal that is struck with this poison to:   |  |  |  | | --- | --- | --- | |  | a. | perceive no pain. | |  | b. | fall into a deep sleep. | |  | c. | go limp and suffocate quickly. | |  | d. | experience a euphoric rush. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 85. A person with Parkinson's disease may sometimes experience muscle tremors and difficulty initiating movements or speech. To help reduce these symptoms, a person may take L-dopa, which converts to \_\_\_\_\_ to treat symptoms. However, a person that takes too much L-dopa can develop \_\_\_\_\_ due to an influx of this neurotransmitter.   |  |  |  | | --- | --- | --- | |  | a. | dopamine; paralysis | |  | b. | dopamine; psychosis | |  | c. | serotonin; paralysis | |  | d. | serotonin; psychosis |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 86. How does cocaine achieve its effects?   |  |  |  | | --- | --- | --- | |  | a. | It mimics dopamine. | |  | b. | It interferes with the reuptake of dopamine. | |  | c. | It interferes with the reuptake of endorphins. | |  | d. | It mimics endorphins. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 87. According to the textbook, which of these is associated with increased endorphin levels?   |  |  |  | | --- | --- | --- | |  | a. | nicotine addiction | |  | b. | relaxation produced by drinking alcohol | |  | c. | muscle rigidity during aerobic exercise | |  | d. | pain-relieving effect of acupuncture |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 88. Antonio has gone to the hospital for severe back pain. While there, the nurse anesthetist administers morphine via an IV. Morphine is a synthetic drug that will increase the release of \_\_\_\_\_ to reduce the pain Antonio is feeling.   |  |  |  | | --- | --- | --- | |  | a. | dopamine | |  | b. | endorphins | |  | c. | GABA | |  | d. | glutamate |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 89. After surgery, physicians may administer \_\_\_\_\_ to relieve pain, a synthetic drug that mimics the effects of endorphins.   |  |  |  | | --- | --- | --- | |  | a. | curare | |  | b. | L-dopa | |  | c. | morphine | |  | d. | Prozac |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 90. Miguel jogs about five miles a day. At roughly the three-mile point, Miguel usually experiences a rush of positive feelings due to \_\_\_\_\_ levels of \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | decreased; norepinephrine | |  | b. | increased; serotonin | |  | c. | increased; endorphins | |  | d. | decreased; GABA |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 91. Fiona finds that when she drinks alcohol at parties she feels less inhibited, which sometimes results in some poor decisions such as agreeing to go to the afterparty even though she has an early shift at work in the morning. This feeling of being less inhibited is the result of what?   |  |  |  | | --- | --- | --- | |  | a. | an increased amount of glutamate | |  | b. | an increased amount of dopamine | |  | c. | an increased amount of endorphins | |  | d. | an increased amount of GABA |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 92. Randy exercises more than most people and continues to train even when he has a cold or an injury. His friends joke that Randy seems addicted to exercise. Randy's compulsive exercising:   |  |  |  | | --- | --- | --- | |  | a. | may be due to the involvement of his brain's opioid system and the production of endorphins. | |  | b. | is an indicator of decreased levels of dopamine and an increased risk of Parkinson's disease. | |  | c. | may be due to the involvement of his limbic system and the production of acetylcholine. | |  | d. | is an indicator of the overproduction of dopamine and an increased risk of schizophrenia. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 93. For the past year, 30-year-old Cecily has experienced difficulty falling and staying asleep and has struggled with low mood. Cecily says she's stressed and was recently diagnosed with depression. Cecily probably has a deficiency in the neurotransmitter:   |  |  |  | | --- | --- | --- | |  | a. | dopamine. | |  | b. | serotonin. | |  | c. | GABA. | |  | d. | glutamate. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 94. All of these neurotransmitters are implicated in learning EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | acetylcholine. | |  | b. | norepinephrine. | |  | c. | GABA. | |  | d. | dopamine. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 95. Over the course of several months and for no apparent reason, Jennifer became progressively more despondent, withdrawn, and listless. Her doctor accurately diagnosed the problem as depression and started Jennifer on an antidepressant drug called Prozac. Three weeks later, Jennifer was much improved. Like some other antidepressant drugs, Prozac works by blocking \_\_\_\_\_ so that there is an increase of \_\_\_\_\_ in the synapse.   |  |  |  | | --- | --- | --- | |  | a. | reuptake; serotonin | |  | b. | reuptake; dopamine | |  | c. | enzymes; serotonin | |  | d. | enzymes; dopamine |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 96. Too much \_\_\_\_\_ and too little \_\_\_\_\_ can result in seizures.   |  |  |  | | --- | --- | --- | |  | a. | glutamate; GABA | |  | b. | GABA; glutamate | |  | c. | dopamine; acetylcholine | |  | d. | serotonin; dopamine |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 97. Kadeem is out camping in the woods with friends. Around dinner time, a bear comes into their camp. Because of the release of \_\_\_\_\_, Kadeem is able to run to his car and drive away and escape in time.   |  |  |  | | --- | --- | --- | |  | a. | dopamine | |  | b. | norepinephrine | |  | c. | GABA | |  | d. | glutamate |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 98. Which of these neurotransmitters is involved in helping the body gear up in the face of danger or threat?   |  |  |  | | --- | --- | --- | |  | a. | acetylcholine | |  | b. | dopamine | |  | c. | serotonin | |  | d. | norepinephrine |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 99. Your friend has been bitten by a black widow spider and starts to feel the effects immediately. Specifically, your friend complains that their heart is beating too fast. You know that their heart muscle is beating faster because their motor neurons are continuously releasing \_\_\_\_\_, which results in severe muscle spasms.   |  |  |  | | --- | --- | --- | |  | a. | acetylcholine | |  | b. | dopamine | |  | c. | GABA | |  | d. | serotonin |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 100. Lydia experiences a rush of \_\_\_\_\_ after her daily five-mile runs, resulting in the sensation of \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | endorphins; fight or flight | |  | b. | endorphins; runner’s high | |  | c. | dopamine; fight or flight | |  | d. | dopamine; runner’s high |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 101. Hera has overdosed on heroin. The EMT transporting Hera to the hospital will likely administer \_\_\_\_\_ to help reverse the effects of her overdose.   |  |  |  | | --- | --- | --- | |  | a. | Narcan | |  | b. | Zoloft | |  | c. | Prozac | |  | d. | curare |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 102. Nicotine is classified as an:   |  |  |  | | --- | --- | --- | |  | a. | endorphin. | |  | b. | SSRI. | |  | c. | agonist. | |  | d. | antagonist. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 103. An \_\_\_\_\_ is a drug or other chemical that binds to a receptor site and triggers a response in the cell.   |  |  |  | | --- | --- | --- | |  | a. | antagonist | |  | b. | endorphin | |  | c. | agonist | |  | d. | opiate |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 104. Nicotine binds to acetylcholine receptor sites, stimulating skeletal muscles and causing the heart to beat more rapidly. Thus, nicotine is a(n):   |  |  |  | | --- | --- | --- | |  | a. | endorphin. | |  | b. | SSRI. | |  | c. | agonist. | |  | d. | antagonist. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 105. An \_\_\_\_\_ is a drug or other chemical that blocks a receptor site and inhibits or prevents a response in the receiving cell.   |  |  |  | | --- | --- | --- | |  | a. | antagonist | |  | b. | endorphin | |  | c. | agonist | |  | d. | opiate |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 106. The drug curare blocks acetylcholine receptor sites, causing virtually instantaneous paralysis. Thus, curare is an:   |  |  |  | | --- | --- | --- | |  | a. | endorphin. | |  | b. | SSRI. | |  | c. | agonist. | |  | d. | antagonist. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 107. The drug naloxone acts as an \_\_\_\_\_ at opioid receptor sites and eliminates the effects of both endorphins and opiates.   |  |  |  | | --- | --- | --- | |  | a. | endorphin | |  | b. | SSRI | |  | c. | agonist | |  | d. | antagonist |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 108. When you eat, muscles in your throat move food from your mouth to your stomach. This muscle function is controlled by which nervous system?   |  |  |  | | --- | --- | --- | |  | a. | sympathetic nervous system | |  | b. | central nervous system | |  | c. | peripheral nervous system | |  | d. | parasympathetic nervous system |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 109. The two main divisions of the nervous system are the \_\_\_\_\_ and the \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | peripheral nervous system; central nervous system | |  | b. | central nervous system; autonomic nervous system | |  | c. | brain; spinal cord | |  | d. | autonomic nervous system; somatic nervous system |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 110. In the \_\_\_\_\_, information is communicated along nerves.   |  |  |  | | --- | --- | --- | |  | a. | central nervous system | |  | b. | peripheral nervous system | |  | c. | limbic system | |  | d. | endocrine system |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 111. The peripheral nervous system is made up of:   |  |  |  | | --- | --- | --- | |  | a. | the brain. | |  | b. | the brain and the spinal cord. | |  | c. | all the nerves lying outside the central nervous system. | |  | d. | motor neurons. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 112. In combination, the brain and spinal cord make up the:   |  |  |  | | --- | --- | --- | |  | a. | peripheral nervous system. | |  | b. | autonomic nervous system. | |  | c. | central nervous system. | |  | d. | somatic nervous system. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 113. \_\_\_\_\_ represent bundles of axons where most are \_\_\_\_\_ to see with the eye.   |  |  |  | | --- | --- | --- | |  | a. | Nerves; large enough | |  | b. | Interneurons; too small | |  | c. | Neurons; large enough | |  | d. | Nerves; too small |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 114. Bundles of axons comprise:   |  |  |  | | --- | --- | --- | |  | a. | nerves. | |  | b. | myelin. | |  | c. | synapses. | |  | d. | glial cells. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 115. What is a function of cerebrospinal fluid?   |  |  |  | | --- | --- | --- | |  | a. | It protects the central nervous system from being jarred. | |  | b. | It promotes the release of neurotransmitters into the synapse. | |  | c. | It can function as a neurotransmitter in times of severe stress. | |  | d. | It is the communication link between the central nervous system and the peripheral nervous system. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 116. There are four hollow cavities in the brain, called “\_\_\_\_\_,” which are filled with cerebrospinal fluid and whose surfaces are lined with \_\_\_\_\_, specialized cells that produce neurons in the developing brain.   |  |  |  | | --- | --- | --- | |  | a. | neural pathways; myelin | |  | b. | ventricles; neural stem cells | |  | c. | synaptic vesicles; myelin | |  | d. | ventricles; glial cells |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 117. Thom was distracted as he was cooking, and inadvertently touched a very hot dish. Instantly, Thom jerked his hand back, a reflexive action that was processed:   |  |  |  | | --- | --- | --- | |  | a. | in his spinal cord. | |  | b. | simultaneously in his spinal cord and brain. | |  | c. | first in his brain, then a moment later in his spinal cord. | |  | d. | in his peripheral nervous system. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 118. When Elisa goes to the doctor for her annual physical, the doctor taps directly below her kneecap, which causes her leg to jerk forward. Elisa's doctor is testing her:   |  |  |  | | --- | --- | --- | |  | a. | neural reflexes. | |  | b. | hormonal reflexes. | |  | c. | bone health. | |  | d. | spinal reflexes. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 119. One way in which a doctor tests Charlie’s spinal reflexes is by tapping below their kneecap to see if their knee jerks. What is the sequence of communication among neurons that starts with the tapping below their kneecap and ends with their knee jerking?   |  |  |  | | --- | --- | --- | |  | a. | sensory neurons, interneurons, motor neurons | |  | b. | motor neurons, interneurons, sensory neurons | |  | c. | interneurons, sensory neurons, motor neurons | |  | d. | sensory neurons, motor neurons, interneurons |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 120. You have banged your head while at cheerleading practice and have a headache. Thankfully, you know your brain is protected by \_\_\_\_\_, which hopefully protected you when you fell.   |  |  |  | | --- | --- | --- | |  | a. | myelin | |  | b. | nerves | |  | c. | ventricles | |  | d. | meninges |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 121. As you are taking a test, you inadvertently drop your pencil, reach down, pick it up, and put it back on the desk. This voluntary action involved motor signals that were communicated out to your muscles via the \_\_\_\_\_ nervous system.   |  |  |  | | --- | --- | --- | |  | a. | autonomic | |  | b. | sympathetic | |  | c. | parasympathetic | |  | d. | somatic |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 122. As you are walking on a beach, you pick up an odd-looking seashell that has a very rough texture. As you rub your fingers over the shell, the sensory messages are communicated via the \_\_\_\_\_ nervous system to the central nervous system.   |  |  |  | | --- | --- | --- | |  | a. | somatic | |  | b. | autonomic | |  | c. | sympathetic | |  | d. | parasympathetic |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 123. While taking this test, you have probably paid little attention to ongoing body functions, such as breathing, heartbeat, and digestion. Such involuntary bodily functions are governed by the:   |  |  |  | | --- | --- | --- | |  | a. | somatic nervous system. | |  | b. | central nervous system. | |  | c. | spinal reflexes. | |  | d. | autonomic nervous system. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 124. The two main subdivisions of the peripheral nervous system are the \_\_\_\_\_ nervous system and the \_\_\_\_\_ nervous system.   |  |  |  | | --- | --- | --- | |  | a. | sympathetic; parasympathetic | |  | b. | somatic; autonomic | |  | c. | autonomic; sympathetic | |  | d. | parasympathetic; somatic |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 125. Maria heard a strange banging noise just outside her bedroom window in the middle of the night. She froze in fear, and her heart began to pound. Maria's heightened physical arousal involved the activation of which subdivision of the nervous system?   |  |  |  | | --- | --- | --- | |  | a. | endocrine | |  | b. | parasympathetic | |  | c. | sympathetic | |  | d. | somatic |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 126. The \_\_\_\_\_ functions as the main link between the nervous system and the endocrine system.   |  |  |  | | --- | --- | --- | |  | a. | medulla | |  | b. | cerebellum | |  | c. | amygdala | |  | d. | hypothalamus |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 127. The “master switchboard” between the nervous system and the endocrine system is the:   |  |  |  | | --- | --- | --- | |  | a. | adrenal cortex. | |  | b. | hypothalamus. | |  | c. | pineal gland. | |  | d. | pancreas. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 128. JoonBo is in a deep sleep when his fire alarm begins to sound loudly. He wakes terrified and jumps out of bed, his heart racing. After determining that there is no smoke in the house and that nothing is on fire, he researches his brand of fire alarm and discovers that it also alerts when the battery is low. Relieved, JoonBo feels his heart slow down. Which subdivision of the nervous system helped JoonBo's body function to return to normal?   |  |  |  | | --- | --- | --- | |  | a. | parasympathetic | |  | b. | endocrine | |  | c. | sympathetic | |  | d. | somatic |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 129. While on vacation at the beach, Binh is swimming in the ocean when they believe they see a shark fin in the water nearby. Binh’s heart starts racing, their breathing is faster, and they try and flee by swimming away. However, Binh shortly realizes that it is not a shark they saw, but a piece of seaweed in the shape of a shark fin. Binh starts to feel their body relax, and their heart rate and breathing begin to normalize. When Binh initially saw what they thought was a shark fin, their \_\_\_\_\_ nervous system was activated. After realizing it was only seaweed, their \_\_\_\_\_ nervous system was activated.   |  |  |  | | --- | --- | --- | |  | a. | parasympathetic; sympathetic | |  | b. | autonomic; somatic | |  | c. | sympathetic; parasympathetic | |  | d. | central; peripheral |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 130. The endocrine system involves communication by the chemical messengers \_\_\_\_\_, which circulate through the \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | hormones; bloodstream | |  | b. | neurotransmitters; spinal cord | |  | c. | hormones; cerebrospinal fluid | |  | d. | endorphins; nervous system |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 131. Your friend always complains that their metabolism is too slow. You know from your introduction to psychology class that metabolism is partly regulated by:   |  |  |  | | --- | --- | --- | |  | a. | oxytocin. | |  | b. | endorphins. | |  | c. | glial cells. | |  | d. | hormones. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 132. What do neurotransmitters and hormones have in common?   |  |  |  | | --- | --- | --- | |  | a. | Both are chemical messengers. | |  | b. | Both are regulated by glial cells. | |  | c. | Both are secreted in the bloodstream. | |  | d. | Both regulate reproduction. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 133. Which gland directly regulates the production of hormones in other endocrine glands and is often called, “the master gland”?   |  |  |  | | --- | --- | --- | |  | a. | the adrenal gland | |  | b. | the thyroid gland | |  | c. | the pituitary gland | |  | d. | the pineal gland |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 134. Which gland produces melatonin, a hormone that helps to regulate our sleep–wake cycle?   |  |  |  | | --- | --- | --- | |  | a. | the pineal gland | |  | b. | the pituitary gland | |  | c. | the pancreas | |  | d. | the thyroid gland |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 135. \_\_\_\_\_ secrete the hormones, estrogen and progesterone, whereas \_\_\_\_\_ secrete the hormone, testosterone.   |  |  |  | | --- | --- | --- | |  | a. | Testes; ovaries | |  | b. | Thyroid; pituitary | |  | c. | Ovaries; testes | |  | d. | Pituitary; thyroid |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 136. Epinephrine and norepinephrine are manufactured by the:   |  |  |  | | --- | --- | --- | |  | a. | adrenal glands. | |  | b. | pineal gland. | |  | c. | thyroid gland. | |  | d. | pituitary gland. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 137. Carlita and Joshua were hiking through the woods when a bear suddenly appeared before them. Rather than confronting the bear, they both instantly fled in the opposite direction. This quick reaction reflects stimulation of the \_\_\_\_\_, which releases \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | pituitary gland; oxytocin and epinephrine | |  | b. | adrenal glands; oxytocin and epinephrine | |  | c. | adrenal glands; norepinephrine and epinephrine | |  | d. | pituitary gland; norepinephrine and epinephrine |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 138. The adrenal glands produce hormones that are involved in:   |  |  |  | | --- | --- | --- | |  | a. | reproduction. | |  | b. | stress. | |  | c. | metabolism. | |  | d. | sleep. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 139. The physical arousal that accompanies the fight-or-flight response involves the activation of which of these endocrine glands?   |  |  |  | | --- | --- | --- | |  | a. | the testes in males and the ovaries in females | |  | b. | the pineal gland | |  | c. | the thyroid gland | |  | d. | the adrenal gland |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 140. How does communication in the endocrine system differ from communication in the nervous system?   |  |  |  | | --- | --- | --- | |  | a. | Communication in the nervous system is slower than communication in the endocrine system. | |  | b. | Communication in the endocrine system is slower than communication in the nervous system. | |  | c. | Endocrine system cells can receive messages but cannot transmit messages. | |  | d. | While both inhibitory and excitatory messages can be transmitted by cells in the nervous system, endocrine system cells can transmit only excitatory messages. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 141. Growth hormone, prolactin, and oxytocin are all secreted by the:   |  |  |  | | --- | --- | --- | |  | a. | pineal gland. | |  | b. | amygdala. | |  | c. | pituitary gland. | |  | d. | hypothalamus. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 142. Another word for epinephrine is:   |  |  |  | | --- | --- | --- | |  | a. | adrenaline. | |  | b. | progesterone. | |  | c. | glutamate. | |  | d. | testosterone. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 143. In nursing mothers, nerve impulses from sensory receptors in the skin are sent to the \_\_\_\_\_, which signals the release of \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | thalamus; progesterone | |  | b. | thalamus; oxytocin | |  | c. | hypothalamus; progesterone | |  | d. | hypothalamus; oxytocin |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 144. The hormone, \_\_\_\_\_ is thought to promote bonding in reproductive partners.   |  |  |  | | --- | --- | --- | |  | a. | testosterone | |  | b. | estrogen | |  | c. | epinephrine | |  | d. | oxytocin |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 145. Which of these is FALSE regarding the psychological effect of oxytocin?   |  |  |  | | --- | --- | --- | |  | a. | It promotes bonding between romantic partners. | |  | b. | It promotes bonding between parent and infant. | |  | c. | In some circumstances, it can promote aggression. | |  | d. | It plays a key role in the fight-or-flight response. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 146. Javier is studying neuroplasticity and is specifically interested how neuroplasticity may change across the lifespan. Javier's research focuses on the brain's ability to:   |  |  |  | | --- | --- | --- | |  | a. | produce new neurons. | |  | b. | change function and structure. | |  | c. | produce lateralized motion. | |  | d. | change function but not structure. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 147. The brain's ability to change function *and* structure is referred to as:   |  |  |  | | --- | --- | --- | |  | a. | structural plasticity. | |  | b. | functional plasticity. | |  | c. | neuroplasticity. | |  | d. | cortical localization. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 148. Which scenario is an example of structural plasticity?   |  |  |  | | --- | --- | --- | |  | a. | A portion of a person's brain shrinks due to disease. | |  | b. | A person's brain loses neurons as they age. | |  | c. | After learning to speak French, a person's brain develops more gray matter. | |  | d. | After a stroke, the speech center of a person's brain develops in a different area of the brain. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 149. Jai received a severe brain injury in a motorcycle accident and was partially paralyzed on the left side of her body. After several months of intensive physical therapy, she gradually regained the use of her left leg and arm. This example BEST illustrates the principle of:   |  |  |  | | --- | --- | --- | |  | a. | structural plasticity. | |  | b. | cortical localization. | |  | c. | functional plasticity. | |  | d. | neurogenesis. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 150. Sunji has been playing chess for the past five years and has become quite good. If Sunji had had an MRI before he began playing chess and follow up five years later, the MRI would likely reveal measurable change in brain regions involved in perceiving, remembering, and logical reasoning. This change is the result of:   |  |  |  | | --- | --- | --- | |  | a. | aphasia. | |  | b. | neurogenesis. | |  | c. | structural plasticity. | |  | d. | functional plasticity. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 151. The brain's ability to shift functions from damaged to undamaged areas is called:   |  |  |  | | --- | --- | --- | |  | a. | aphasia. | |  | b. | neurogenesis. | |  | c. | structural plasticity. | |  | d. | functional plasticity. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 152. Juliana began taking violin lessons as a young child. As a teenager, she participated in a research study in which MRI scans of teenagers who had played the violin for several years were compared to MRI scans of teenagers who had never played a musical instrument. The MRI scans of the teenage violinists showed that brain regions devoted to control of the fine muscles of the hands and fingers were larger in the teenage musicians than in the nonmusicians. This example illustrates the important phenomenon of:   |  |  |  | | --- | --- | --- | |  | a. | functional plasticity. | |  | b. | structural plasticity. | |  | c. | lateralization of function. | |  | d. | myelin regrowth. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 153. As you're eating lunch with a friend, you reach for your glass of water with your right hand, lift it to your lips, take a sip, and then set it down. This simple task involved:   |  |  |  | | --- | --- | --- | |  | a. | only the primary motor cortex in the brain. | |  | b. | just the left hemisphere of the brain. | |  | c. | multiple brain structures and regions communicating via neural pathways. | |  | d. | just the right hemisphere of the brain. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 154. One of the first technologies to visualize the human brain in a living person was:   |  |  |  | | --- | --- | --- | |  | a. | positron-emission tomography (PET). | |  | b. | computed tomography (CT). | |  | c. | functional magnetic resonance imaging (fMRI). | |  | d. | diffusion MRI (dMRI). |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 155. A \_\_\_\_\_ provides highly detailed images of the brain, whereas a \_\_\_\_\_ shows relatively less detailed images of the brain.   |  |  |  | | --- | --- | --- | |  | a. | fMRI; MRI | |  | b. | fMRI; CT | |  | c. | CT; fMRI | |  | d. | EEG; dMRI |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 156. Which of these is TRUE about electroencephalography (EEG)?   |  |  |  | | --- | --- | --- | |  | a. | Electrodes are placed on the arms and legs to measure electrical charges. | |  | b. | This technique has been often used to diagnose anxiety and depression. | |  | c. | This technique can measure signals on the surface of the brain and subcortical areas. | |  | d. | This technique is one of the newest brain imaging techniques. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 157. Dr. Patel is interested in visualizing the neural pathways in individuals who are addicted to nicotine. She specifically wants to produce three-dimensional images of the brain. Dr. Patel compares smokers who have been able to smoke their normal number of cigarettes in the past 24 hours to smokers who have not been able to smoke cigarettes in the past 24 hours. What brain imaging technique should Dr. Patel use?   |  |  |  | | --- | --- | --- | |  | a. | dMRI | |  | b. | CT | |  | c. | PET scan | |  | d. | EEG |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 158. Your friend, Moira, says she is nervous about having an MRI done because she heard an MRI will be painful and expose her to radiation. You reassure Moira by telling her that:   |  |  |  | | --- | --- | --- | |  | a. | an MRI does not expose people to radiation and it is virtually harmless. | |  | b. | an MRI only exposes people to a small amount of radiation and it does not hurt that bad. | |  | c. | patients are always sedated during an MRI, so she will not feel any pain. | |  | d. | a dMRI exposes people to radiation, but an MRI does not so she does not have to worry. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 159. You are told you need a \_\_\_\_\_, which will track a radioactively tagged compound, such as glucose or oxygen.   |  |  |  | | --- | --- | --- | |  | a. | fMRI | |  | b. | EEG | |  | c. | CT | |  | d. | PET scan |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 160. Your sibling recently fainted at the grocery store. After receiving a(n) \_\_\_\_\_ at the hospital they were diagnosed with epilepsy.   |  |  |  | | --- | --- | --- | |  | a. | CT scan. | |  | b. | fMRI. | |  | c. | EEG. | |  | d. | dMRI. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 161. Neuroscientists and psychologists should maintain a healthy level of \_\_\_\_\_ while interpreting brain imaging studies because everyone has their own \_\_\_\_\_ that play a large role in our brain activity.   |  |  |  | | --- | --- | --- | |  | a. | skepticism; genetic make-up | |  | b. | skepticism; experiences | |  | c. | confidence; genetic make-up | |  | d. | confidence; experiences |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 162. The development of new neurons in the brain is called:   |  |  |  | | --- | --- | --- | |  | a. | neurogenesis. | |  | b. | structural plasticity. | |  | c. | neuroplasticity. | |  | d. | functional plasticity. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 163. Which of these is TRUE regarding the development and growth of new neurons in the human brain?   |  |  |  | | --- | --- | --- | |  | a. | Animals such as primates, birds, and rodents do not experience neurogenesis. | |  | b. | Neurogenesis is limited to two brain regions: the thalamus and cerebellum. | |  | c. | Neurogenesis is limited to two brain regions: the hippocampus and the olfactory bulb. | |  | d. | There is no evidence that the human brain continues to develop new neurons after birth. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 164. Many brain functions involve the activation of \_\_\_\_\_ that link different brain regions.   |  |  |  | | --- | --- | --- | |  | a. | hormones | |  | b. | reflexes | |  | c. | neural pathways | |  | d. | nerves |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 165. The brainstem is made up of the \_\_\_\_\_ and the \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | forebrain; midbrain | |  | b. | midbrain; hindbrain | |  | c. | frontal lobe; occipital lobe | |  | d. | frontal lobe; parietal lobe |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 166. The brain region responsible for connecting the brain and spinal cord is the:   |  |  |  | | --- | --- | --- | |  | a. | forebrain. | |  | b. | midbrain. | |  | c. | hindbrain. | |  | d. | corpus callosum. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 167. As you take this test, you do not have to focus on taking your next breath or making your heart beat. This is because the \_\_\_\_\_ is involved in the control of vital life functions, such as breathing, heart rate, and digestion.   |  |  |  | | --- | --- | --- | |  | a. | medulla | |  | b. | pons | |  | c. | reticular formation | |  | d. | cerebellum |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 168. When President John F. Kennedy was shot by a sniper's bullet in the back of his head, he died almost instantly because the bullet destroyed the part of his brain called the \_\_\_\_\_, which controls breathing, heartbeat, and other vital body functions.   |  |  |  | | --- | --- | --- | |  | a. | cerebellum | |  | b. | medulla | |  | c. | pons | |  | d. | thalamus |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 169. The brainstem is made up of the \_\_\_\_\_ and the \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | forebrain; midbrain | |  | b. | cerebellum; medulla | |  | c. | reticular formation; pons | |  | d. | midbrain; hindbrain |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 170. Your pencil starts to roll off the desk and in a smooth, coordinated fashion you grab it just before it rolls off the edge. Your ability to perform this action involved which brain area?   |  |  |  | | --- | --- | --- | |  | a. | the cerebellum | |  | b. | the medulla | |  | c. | the reticular formation | |  | d. | the forebrain |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 171. You suddenly hear a loud crash in your home. You turn around quickly to see what caused the sound. The brain structure responsible for your ability to turn around when the crash startled you is the:   |  |  |  | | --- | --- | --- | |  | a. | forebrain. | |  | b. | hindbrain. | |  | c. | midbrain. | |  | d. | prefrontal cortex. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 172. Chaeyoung has been having difficulty paying attention during class lately and her sleep schedule has been disrupted. It could be that the nerve fibers in the \_\_\_\_\_ are not working properly and Chaeyoung should go to the doctor to get checked out.   |  |  |  | | --- | --- | --- | |  | a. | reticular formation | |  | b. | cerebellum | |  | c. | medulla | |  | d. | thalamus |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 173. The hippocampus plays a key role in which functions?   |  |  |  | | --- | --- | --- | |  | a. | regulating sleep and wakefulness | |  | b. | survival behaviors, including eating and drinking | |  | c. | forming new memories | |  | d. | emotional responses, including fear, anger, and disgust |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 174. After an automobile accident, Randy experienced a series of severe seizures. After the seizures stopped, Randy's ability to form new memories was greatly impaired. Which brain structure was MOST likely damaged by the severe seizures?   |  |  |  | | --- | --- | --- | |  | a. | the hypothalamus | |  | b. | the hippocampus | |  | c. | the amygdala | |  | d. | the thalamus |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 175. Which of these is NOT a hindbrain structure?   |  |  |  | | --- | --- | --- | |  | a. | hypothalamus | |  | b. | pons | |  | c. | medulla | |  | d. | cerebellum |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 176. Which statement describes the substantia nigra?   |  |  |  | | --- | --- | --- | |  | a. | It contains dopamine-producing neurons and is involved in motor control. | |  | b. | This is the region that has shown the greatest degree of neurogenesis in humans. | |  | c. | This is the primary communication link between the left and right cerebral hemispheres. | |  | d. | It does not fully develop until late adolescence. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 177. As you are walking in a crowded hallway, someone calls your name. Almost instantly, you sense that the person is on your left. Your brain's ability to detect the direction of a sound is initially processed in the:   |  |  |  | | --- | --- | --- | |  | a. | medulla. | |  | b. | frontal lobe. | |  | c. | midbrain region. | |  | d. | occipital lobe. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 178. The substantia nigra is:   |  |  |  | | --- | --- | --- | |  | a. | located in the midbrain. | |  | b. | where the greatest level of neurogenesis occurs. | |  | c. | the primary communication link between the two hemispheres of the cerebral cortex. | |  | d. | the point at which motor signals cross over from one side of the brain to the opposite side of the body. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 179. As you are listening to a lecture, workers are repairing a wall just outside your classroom. Throughout the class, you find yourself coughing and sneezing because of the dust and fumes in the air. Which brain structure controls such vital reflexes as sneezing, coughing, and swallowing?   |  |  |  | | --- | --- | --- | |  | a. | the corpus callosum | |  | b. | the cerebellum | |  | c. | the medulla | |  | d. | the thalamus |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 180. After too many drinks at a party, your friend awkwardly stumbles into a table, almost knocking it over. Your friend's coordination for simple actions, such as walking between two tables, is reduced because the alcohol has affected his:   |  |  |  | | --- | --- | --- | |  | a. | medulla. | |  | b. | cerebellum. | |  | c. | thalamus. | |  | d. | somatosensory cortex. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 181. The \_\_\_\_\_ is a network of neurons at the base of the brain that projects signals up to higher brain regions and down to the spinal cord, and regulates attention and sleep.   |  |  |  | | --- | --- | --- | |  | a. | cerebellum | |  | b. | hypothalamus | |  | c. | reticular formation | |  | d. | substantia nigra |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 182. Which structure helps relay information from higher brain regions to the cerebellum and helps coordinate and integrate movements on each side of the body?   |  |  |  | | --- | --- | --- | |  | a. | the substantia nigra | |  | b. | the corpus callosum | |  | c. | the amygdala | |  | d. | the pons |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 183. Which of these structures of the brain is considered a “social organ”?   |  |  |  | | --- | --- | --- | |  | a. | the prefrontal cortex | |  | b. | the limbic system | |  | c. | the forebrain | |  | d. | the hypothalamus |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 184. The thalamus processes all sensory information EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | audition. | |  | b. | vision. | |  | c. | touch. | |  | d. | smell. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 185. The \_\_\_\_\_ is part of the limbic system and is involved in emotional responses and memories with a strong emotional component.   |  |  |  | | --- | --- | --- | |  | a. | amygdala | |  | b. | thalamus | |  | c. | hypothalamus | |  | d. | medulla |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 186. The almond-shaped clump of neuron cell bodies at the base of the temporal lobe that is involved in a variety of emotional responses is called the:   |  |  |  | | --- | --- | --- | |  | a. | amygdala. | |  | b. | hippocampus. | |  | c. | thalamus. | |  | d. | frontal cortex. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 187. Padma witnesses a group of tourists litter and throw soda cans in the ocean. Padma feels angry and is disgusted by their behavior. Which area of the brain is associated with her emotional responses?   |  |  |  | | --- | --- | --- | |  | a. | the hypothalamus | |  | b. | the amygdala | |  | c. | the thalamus | |  | d. | the hippocampus |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 188. In animals, electrical stimulation of the amygdala produces:   |  |  |  | | --- | --- | --- | |  | a. | an almost instantaneous onset of sleep. | |  | b. | awkward, clumsy behavior. | |  | c. | grooming or mating behavior. | |  | d. | behaviors associated with fear. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 189. Which of these represents the largest region of the brain?   |  |  |  | | --- | --- | --- | |  | a. | the forebrain | |  | b. | the hindbrain | |  | c. | the cerebellum | |  | d. | the midbrain |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 190. The cerebral cortex appears \_\_\_\_\_ because it is mostly composed of neuron cell bodies, unmyelinated axons, and capillaries. The inner part of the cerebral cortex appears \_\_\_\_\_ and is composed of myelinated axons.   |  |  |  | | --- | --- | --- | |  | a. | gray; white | |  | b. | white; gray | |  | c. | red; white | |  | d. | gray; red |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 191. Which BEST describes the surface of the cerebral cortex?   |  |  |  | | --- | --- | --- | |  | a. | smooth, pinkish tissue, well-endowed with blood vessels | |  | b. | a rounded, semicircular mass of white matter | |  | c. | darkly pigmented tissue bisected by a single deep fissure | |  | d. | numerous folds, wrinkles, bulges, ridges, and valleys |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 192. The primary communication link between the left and right cerebral hemispheres is called:   |  |  |  | | --- | --- | --- | |  | a. | the thalamus. | |  | b. | Wernicke's area. | |  | c. | Broca's area. | |  | d. | the corpus callosum. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 193. The phrase “white matter” in the brain refers to:   |  |  |  | | --- | --- | --- | |  | a. | myelinated axons. | |  | b. | the large spaces on the interior of the brain called “ventricles.” | |  | c. | unmyelinated axons, capillaries, and cell bodies. | |  | d. | neurons that manufacture endorphins. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 194. Waiting for your friend at the airport, you scan the faces of the passengers as they exit the terminal. This visual information is being processed in your \_\_\_\_ lobe.   |  |  |  | | --- | --- | --- | |  | a. | occipital | |  | b. | parietal | |  | c. | frontal | |  | d. | temporal |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 195. As you wait in line at the airport, the person behind you is standing so close that their briefcase is pushing against your leg. The sensation of the briefcase touching and pushing against you is being processed in your:   |  |  |  | | --- | --- | --- | |  | a. | frontal lobe. | |  | b. | occipital lobe. | |  | c. | temporal lobe. | |  | d. | parietal lobe. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 196. Processing somatosensory information is to the \_\_\_\_\_ lobe as seeing is to the \_\_\_\_\_ lobe.   |  |  |  | | --- | --- | --- | |  | a. | parietal; temporal | |  | b. | frontal; parietal | |  | c. | temporal; occipital | |  | d. | parietal; occipital |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 197. A gymnast knows where his arms and legs are as he does his tumbling routine because information from his muscles and joints is relayed to his:   |  |  |  | | --- | --- | --- | |  | a. | temporal lobe. | |  | b. | frontal lobe. | |  | c. | occipital lobe. | |  | d. | parietal lobe. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 198. During a game of nighttime tag, Raquel noticed that when her hand was touched the first time she was tagged she felt it more intensely than when her elbow was touched the second time she was tagged. This is because the primary \_\_\_\_\_ receives information about touch and each body part is represented \_\_\_\_\_ to their sensitivity to touch along this cortex.   |  |  |  | | --- | --- | --- | |  | a. | visual cortex; proportionally | |  | b. | motor cortex; equally | |  | c. | somatosensory cortex; proportionally | |  | d. | auditory cortex; equally |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 199. How is each part of the body represented on the somatosensory cortex?   |  |  |  | | --- | --- | --- | |  | a. | in proportion to each body part's potential for movement | |  | b. | in proportion to the degree of neurogenesis that has occurred in each segment of the region | |  | c. | in proportion to the size of each body part | |  | d. | in proportion to each body part's sensitivity to somatic sensations |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 200. A large bulk of the cerebral cortex is not devoted to any particular sensory or motor function. Rather, these areas, known as \_\_\_\_\_, are generally thought to be involved in processing and integrating sensory and motor information.   |  |  |  | | --- | --- | --- | |  | a. | secondary cortex areas | |  | b. | association areas | |  | c. | the limbic system | |  | d. | Broca's and Wernicke's areas |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 201. The occipital lobe is to \_\_\_\_\_ as the temporal lobe is to \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | vision; somatosensory processing | |  | b. | audition; vision | |  | c. | somatosensory processing; audition | |  | d. | vision; audition |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 202. The \_\_\_\_\_ lobe is involved in a person's ability to plan, initiate, and carry out voluntary movements and actions.   |  |  |  | | --- | --- | --- | |  | a. | frontal | |  | b. | occipital | |  | c. | parietal | |  | d. | temporal |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 203. Before his railroad accident, Phineas Gage was known as a caring and soft-spoken person. Afterwards, Phineas was bad-tempered and irresponsible. It was determined based on these personality changes that Phineas experienced damage to his:   |  |  |  | | --- | --- | --- | |  | a. | cerebral cortex. | |  | b. | prefrontal cortex. | |  | c. | primary somatosensory cortex. | |  | d. | primary motor cortex. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 204. During the middle of a test, your instructor announces that there's an error on one of the questions. As you listen, the auditory information is being processed in your:   |  |  |  | | --- | --- | --- | |  | a. | occipital lobe. | |  | b. | frontal lobe. | |  | c. | temporal lobe. | |  | d. | parietal lobe. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 205. Each cerebral hemisphere can be roughly divided into four lobes. Which lobe processes auditory information?   |  |  |  | | --- | --- | --- | |  | a. | frontal lobe | |  | b. | parietal lobe | |  | c. | temporal lobe | |  | d. | occipital lobe |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 206. Samuel suffered damage to his temporal lobes during an operation to remove tumors from his brain. This will likely cause him to have difficulty with his:   |  |  |  | | --- | --- | --- | |  | a. | vision. | |  | b. | ability to smell and taste. | |  | c. | hearing. | |  | d. | ability to process somatosensory information. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 207. Almost all of the sensory and motor information going to and from the cerebral cortex is processed through the:   |  |  |  | | --- | --- | --- | |  | a. | thalamus. | |  | b. | hypothalamus. | |  | c. | hippocampus. | |  | d. | pituitary gland. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 208. The “limbic system” refers to the:   |  |  |  | | --- | --- | --- | |  | a. | hypothalamus, pituitary gland, and reproductive adrenal glands. | |  | b. | hippocampus, thalamus, amygdala, and hypothalamus. | |  | c. | thalamus, cerebellum, pons, medulla, and hypothalamus. | |  | d. | parietal, occipital, frontal, and temporal lobes. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 209. Which two limbic system structures are especially associated with forming new memories?   |  |  |  | | --- | --- | --- | |  | a. | the hypothalamus and the substantia nigra | |  | b. | the thalamus and the hypothalamus | |  | c. | the hippocampus and amygdala | |  | d. | the thalamus and cerebellum |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 210. Your cousin’s eyes suddenly light up and he reaches out, executes a double-jump of your checker pieces, then smiles at you triumphantly. The brain signals for these voluntary actions originated in the \_\_\_\_\_ of your cousin's brain.   |  |  |  | | --- | --- | --- | |  | a. | somatosensory cortex | |  | b. | primary motor cortex | |  | c. | visual association cortex | |  | d. | primary auditory cortex |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 211. The signals for voluntary muscle movements originate in a band of tissue called the \_\_\_\_\_, which is located on the \_\_\_\_\_ lobe.   |  |  |  | | --- | --- | --- | |  | a. | primary motor cortex; parietal | |  | b. | somatosensory cortex; parietal | |  | c. | primary motor cortex; frontal | |  | d. | association area; occipital |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 212. Which parts of the body have the greatest representation on the primary motor cortex?   |  |  |  | | --- | --- | --- | |  | a. | hand and facial muscles | |  | b. | leg and arm muscles | |  | c. | head and neck muscles | |  | d. | chest and back muscles |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 213. You've been studying biology in the library for the past couple of hours when you realize that you're getting really hungry and thirsty. Which brain structure played a key role in triggering feelings of hunger and thirst?   |  |  |  | | --- | --- | --- | |  | a. | the pituitary gland | |  | b. | the corpus callosum | |  | c. | the hypothalamus | |  | d. | the hippocampus |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 214. Daily rhythms of sleep and wakefulness are regulated by the \_\_\_\_\_, which is found in the \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | suprachiasmatic nucleus (SCN); hypothalamus | |  | b. | reticular formation; frontal lobe | |  | c. | hippocampus; hypothalamus | |  | d. | cerebellum; midbrain |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 215. The hypothalamus exerts control over the endocrine system by directly triggering activity in the:   |  |  |  | | --- | --- | --- | |  | a. | amygdala. | |  | b. | thyroid. | |  | c. | pituitary gland. | |  | d. | hippocampus. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 216. Which brain structure exerts considerable influence over the secretion of hormones throughout the body?   |  |  |  | | --- | --- | --- | |  | a. | the hypothalamus | |  | b. | the amygdala | |  | c. | the hippocampus | |  | d. | the thalamus |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 217. Recent evidence suggests that \_\_\_\_\_ is more than just a sensory relay station and plays a key role in regulating levels of awareness.   |  |  |  | | --- | --- | --- | |  | a. | the pituitary gland | |  | b. | the thalamus | |  | c. | Broca's area | |  | d. | the primary motor cortex |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 218. Although \_\_\_\_\_ has been shown to be a pseudoscience, it helped introduce the idea that functions were \_\_\_\_\_ in the brain.   |  |  |  | | --- | --- | --- | |  | a. | phrenology; lateralized | |  | b. | neuroscience; localized | |  | c. | neuroscience; lateralized | |  | d. | phrenology; localized |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 219. Phrenology refers to:   |  |  |  | | --- | --- | --- | |  | a. | the study of brain/endocrine system interactions. | |  | b. | a pseudoscience that related personality characteristics to bumps on the skull. | |  | c. | the historical method of drilling holes in the skull as a treatment for brain disease and mental illness. | |  | d. | the scientific study of “phrens” or “phrenetics.” |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 220. The popularity of phrenology triggered scientific interest in which of these?   |  |  |  | | --- | --- | --- | |  | a. | the idea that the brain's left hemisphere might be specialized for language functions | |  | b. | the development of medications to treat severe mental disorders | |  | c. | cutting the corpus callosum to reduce epileptic seizures | |  | d. | the idea that specific psychological and mental functions are located in specific brain areas |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 221. Phrenology was founded by:   |  |  |  | | --- | --- | --- | |  | a. | Pierre Paul Broca. | |  | b. | Roger Sperry. | |  | c. | Karl Wernicke. | |  | d. | Franz Gall. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 222. The chapter prologue described the story of Congresswoman Gabrielle Giffords who was shot resulting in significant damage to the left hemisphere of their brain. Which of these functions are possibly limited because of the damage to Congresswoman Giffords’ left hemisphere?   |  |  |  | | --- | --- | --- | |  | a. | the ability to speak and understand language | |  | b. | the ability to interpret emotional expressions or appreciate music | |  | c. | the ability to speak and the ability to interpret faces | |  | d. | lateralization of function states each hemisphere interacts, so it is difficult to determine what functions are now limited |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 223. Phrenology helped introduce the idea of brain \_\_\_\_\_, whereas split-brain research demonstrated the principle of brain \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | localization; lateralization | |  | b. | lateralization; localization | |  | c. | specialization; plasticity | |  | d. | plasticity; specialization |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 224. Petro is unable to articulate ideas or understand spoken or written language because of damage caused by a brain injury. Petro suffers from:   |  |  |  | | --- | --- | --- | |  | a. | Parkinson's disease. | |  | b. | Alzheimer's disease. | |  | c. | the aftereffects of the split-brain operation. | |  | d. | aphasia. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 225. Broca is to \_\_\_\_\_ as Wernicke is to \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | left front lobe; left temporal lobe | |  | b. | left cerebral hemisphere; right cerebral hemisphere | |  | c. | structural plasticity; functional plasticity | |  | d. | left temporal lobe; left frontal lobe |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 226. Carla had a stroke and although she has recovered many of her motor skills, she still has considerable difficulty with language. It is almost impossible for Carla to produce speech, although she comprehends both written and spoken language quite well. Carla is demonstrating characteristics of \_\_\_\_\_ aphasia.   |  |  |  | | --- | --- | --- | |  | a. | left-hemisphere | |  | b. | Broca's | |  | c. | Wernicke's | |  | d. | right-hemisphere |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 227. A German neurologist named \_\_\_\_\_ identified an area on the left temporal lobe that, when damaged, disrupted the ability to understand written or spoken language.   |  |  |  | | --- | --- | --- | |  | a. | Paul Broca | |  | b. | Karl Wernicke | |  | c. | Roger Sperry | |  | d. | Franz Gall |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 228. Damage to Wernicke's area in the brain:   |  |  |  | | --- | --- | --- | |  | a. | produces disruptions in the sense of balance as well as numbness in the arms and legs. | |  | b. | produces difficulty speaking but does not disrupt the ability to comprehend verbal or written words. | |  | c. | disrupts or destroys the ability to form new memories. | |  | d. | produces difficulty in comprehending written or spoken communication. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 229. Following her stroke, Fernando's grandmother could understand what she read or what was being said to her. However, she had great difficulty speaking. Based on these observations, Fernando suspected that his grandmother's stroke had produced damage in:   |  |  |  | | --- | --- | --- | |  | a. | Wernicke's area. | |  | b. | Broca's area. | |  | c. | the corpus callosum. | |  | d. | the hippocampus. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 230. Sonja informs you that because you are a painter, thus more creative, that you are a “right-brained” person. Sonja says since she is a lawyer and uses a lot of logical reasoning on a daily basis, that she is a “left-brained” person. What would you tell Sonja about “right-brained” and “left-brained” people?   |  |  |  | | --- | --- | --- | |  | a. | There is no evidence to support that people are either “right-brained” or “left-brained.” | |  | b. | Painters use a lot of logical reasoning skills, so they would be considered more “left-brained.” | |  | c. | A lawyer cannot be considered “right-brained” or “left-brained” because the skills they use are too complex. | |  | d. | There are too many other factors to consider in addition to your career choices to conclude if either of you are more “right-brained” or “left-brained.” |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 231. Kai is left-handed, Ivy is right-handed, and Beck is ambidextrous (used their left and right hand equally). What can you conclude about their brain organization based on their handedness?   |  |  |  | | --- | --- | --- | |  | a. | Most likely, Kai is left-hemisphere dominant, Ivy is right-hemisphere dominant, and Beck uses each hemisphere equally. | |  | b. | Most likely, Kai, Ivy, and Beck are all left-hemisphere dominant since 75% of people are. | |  | c. | Most likely, Kai, Ivy, and Beck are all right-hemisphere dominant since 75% of people are. | |  | d. | Most likely, Beck is left-hemisphere dominant, while Kai and Ivy are right-hemisphere dominant. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 232. The \_\_\_\_\_ complex the task, the \_\_\_\_\_ the likelihood both hemispheres will be involved.   |  |  |  | | --- | --- | --- | |  | a. | less; lesser | |  | b. | less; greater | |  | c. | more; lesser | |  | d. | more; greater |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 233. What would you tell someone who says the right hemisphere is responsible for creativity, while the left hemisphere is responsible for more analyzing thinking?   |  |  |  | | --- | --- | --- | |  | a. | That what they say is true. | |  | b. | The left hemisphere is responsible for creativity, whereas the right hemisphere is responsible for analytical thinking. | |  | c. | Each hemisphere is specialized, but humans rely on integrated functioning of both hemispheres to accomplish most tasks. | |  | d. | Each hemisphere is specialized, and it depends on the task at hand whether the right or left hemisphere is more active. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 234. The right hemisphere is specialized for \_\_\_\_\_ as noted in the In Focus box on “Brain Myths.”   |  |  |  | | --- | --- | --- | |  | a. | creativity | |  | b. | logical reasoning | |  | c. | analytical thinking | |  | d. | holistic processing |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 235. The discoveries of Pierre Paul Broca and Karl Wernicke:   |  |  |  | | --- | --- | --- | |  | a. | provided compelling evidence that language and speech functions are lateralized on the right hemisphere. | |  | b. | discredited the idea of cortical localization. | |  | c. | provided compelling evidence that language and speech functions are lateralized on the left hemisphere. | |  | d. | were later discredited by the work of psychologist Roger Sperry and his colleagues. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 236. Psychologist and neuroscientist Roger Sperry is BEST known for:   |  |  |  | | --- | --- | --- | |  | a. | his efforts to debunk the pseudoscientific claims of phrenology. | |  | b. | the discovery of neurogenesis in the adult human brain. | |  | c. | his studies of split-brain patients. | |  | d. | identifying the specific brain areas involved in different forms of aphasia. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 237. The idea that specific psychological or cognitive functions are processed primarily on one side of the brain is called:   |  |  |  | | --- | --- | --- | |  | a. | cortical localization. | |  | b. | lateralization of function. | |  | c. | functional plasticity. | |  | d. | structural plasticity. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 238. Why was the split-brain operation first performed?   |  |  |  | | --- | --- | --- | |  | a. | to study the specialized abilities of the left and right hemispheres | |  | b. | to help control recurring epileptic seizures | |  | c. | to identify the location of motor centers in the brain | |  | d. | to treat people suffering from severe forms of aphasia |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 239. If someone is listening to and enjoying classical music, which portion of their brain is likely experiencing higher levels of activation?   |  |  |  | | --- | --- | --- | |  | a. | Broca's area | |  | b. | Wernicke's area | |  | c. | the left hemisphere | |  | d. | the right hemisphere |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 240. Tom is a split-brain patient seated in front of a screen. As he focuses on the middle of the screen, the image of an apple is briefly flashed on the LEFT side of the screen. Tom will:   |  |  |  | | --- | --- | --- | |  | a. | be able to verbally name the object. | |  | b. | be able to use his right hand to reach under the screen and pick up the correct object. | |  | c. | verbally deny that any image appeared on the screen. | |  | d. | probably have an epileptic seizure. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 241. Tracy is a split-brain patient seated in front of a screen. As she focuses on the middle of the screen, the image of a fork is briefly flashed on the RIGHT side of the screen. Tracy will:   |  |  |  | | --- | --- | --- | |  | a. | be able to verbally name the object. | |  | b. | be able to use her left hand to reach under the screen and pick up the correct object. | |  | c. | verbally deny that any image appeared on the screen. | |  | d. | probably have an epileptic seizure. |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 242. Based on research with split-brain patients, we know that the \_\_\_\_\_ hemisphere is specialized for \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | left; emotional and nonverbal aspects of communication | |  | b. | right; visual perception tasks | |  | c. | right; language abilities | |  | d. | left; artistic and musical appreciation |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 243. Recognizing a person but blanking on their name is a common experience. For most people, facial recognition is a \_\_\_\_\_ hemisphere task, while being able to name the person is a \_\_\_\_\_ hemisphere verbal memory task.   |  |  |  | | --- | --- | --- | |  | a. | left; left | |  | b. | right; right | |  | c. | right; left | |  | d. | left; right |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 244. In reading these test questions, you are primarily using your \_\_\_\_\_ to understand what you are reading.   |  |  |  | | --- | --- | --- | |  | a. | left hemisphere | |  | b. | right hemisphere | |  | c. | amygdala | |  | d. | medulla |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 245. According to Psych for Your Life: Concussions, Assessment, Treatment, and Cumulative Impact, all of these are part of the top three sports that have the highest incidence of concussion EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | boy’s football. | |  | b. | girl’s soccer. | |  | c. | girl’s cheerleading. | |  | d. | boy’s soccer. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 246. After a car accident, the first responder noticed that the passenger in the car was answering questions about the accident slowly. At the hospital, the passenger tells the doctor that she doesn’t feel right and has a headache. The fact that the passenger is answering questions slowly is a(n) \_\_\_\_\_, while the passenger not feeling right and having a headache are \_\_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | observed sign of concussion; self-reported concussion symptoms | |  | b. | self-reported concussion symptom; observed signs of concussion | |  | c. | symptom of a TBI; symptoms of a concussion | |  | d. | symptom of a concussion; symptoms of a TBI |  |  |  | | --- | --- | | *ANSWER:* | a | |

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| 247. As noted in the Psych for Your Life: Concussions, Assessment, Treatment, and Cumulative Impact box, a concussion is the \_\_\_\_\_ common type of TBI and the \_\_\_\_\_ type of TBI.   |  |  |  | | --- | --- | --- | |  | a. | least; most extreme | |  | b. | least; mildest | |  | c. | most; most extreme | |  | d. | most; mildest |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 248. While playing a soccer game, Rita is hit in the head with a soccer ball and accidentally kicked in the head by a member of the other team. Immediately afterwards, Rita feels sore, but fine overall and doesn’t think she needs to worry about having a concussion. What would you tell Rita about concussions?   |  |  |  | | --- | --- | --- | |  | a. | Rita should not be worried about a concussion since she does not feel any symptoms of a concussion and no one reports seeing signs of a concussion immediately afterwards. | |  | b. | Even though Rita does not feel any symptoms of a concussion and no one reports seeing signs of a concussion, she should still be worried because symptoms can show up hours or days later. | |  | c. | Rita should not be worried about a concussion, but because of how she was hit in the head, another type of TBI is possible. | |  | d. | Rita should not be worried about a concussion because concussions rarely occur in soccer. |  |  |  | | --- | --- | | *ANSWER:* | b | |

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| 249. All of these areas are a part of the checklist on the Acute Concussion Evaluation (ACE) EXCEPT:   |  |  |  | | --- | --- | --- | |  | a. | physical. | |  | b. | emotional. | |  | c. | cognitive. | |  | d. | psychological. |  |  |  | | --- | --- | | *ANSWER:* | d | |

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| 250. Lance Briggs, a former Chicago Bears linebacker, has reported feeling symptoms of anxiety, poor impulse control, and difficulty concentrating. Lance Briggs may be experiencing symptoms of:   |  |  |  | | --- | --- | --- | |  | a. | a concussion. | |  | b. | a TBI. | |  | c. | chronic traumatic encephalopathy. | |  | d. | multiple sclerosis. |  |  |  | | --- | --- | | *ANSWER:* | c | |

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| 251. After falling during cheerleading practice, Xan was diagnosed with a concussion. Xan’s doctor will likely recommend he \_\_\_\_\_ to recover.   |  |  |  | | --- | --- | --- | |  | a. | goes back to practice | |  | b. | stays awake for as long as possible | |  | c. | reduces overall activity and sleep | |  | d. | takes medication and sees a physical therapist |  |  |  | | --- | --- | | *ANSWER:* | c | |