|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Sustainability refers to \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | the way in which the natural world works | |  | b. | how we interact with the environment | |  | c. | human methods and proven solutions of coping with and eliminating environmental problems | |  | d. | refusing, reducing, reusing, and recycling | |  | e. | the capacity of the earth’s natural systems to survive or adapt to changing environmental conditions indefinitely |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. Which discipline is most associated with environmental science?   |  |  |  | | --- | --- | --- | |  | a. | botany | |  | b. | political science | |  | c. | sociology | |  | d. | ecology | |  | e. | psychology |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. A forest with plants, animals, and various other organisms is an example of a(n) \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | ecosystem | |  | b. | species | |  | c. | ecology | |  | d. | life-support system | |  | e. | nutrient |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4. Using normally renewable resources faster than nature can restore them is called \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | nutrient cycling | |  | b. | nutrient deficit | |  | c. | sustainability | |  | d. | trade-offs | |  | e. | degrading natural capital |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5. Solar energy is known as a(n) \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | renewable resource | |  | b. | recyclable resource | |  | c. | inexhaustible resource | |  | d. | reusable resource | |  | e. | nonrenewable resource |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. What is one of the three principles of sustainability provided by economics, politics, and ethics?   |  |  |  | | --- | --- | --- | |  | a. | a dependence on solar energy | |  | b. | a focus on chemical cycling | |  | c. | the degradation of natural capital | |  | d. | a responsibility to future generations | |  | e. | the ability to retain biodiversity |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. Topsoil plays an important role in the ecosystem service of \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | biodiversity | |  | b. | ecosystems | |  | c. | natural resources | |  | d. | win—win solutions | |  | e. | nutrient cycling |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. Environmental science should not be confused with \_\_\_\_, which is a social movement dedicated to protecting the earth’s life and its resources.   |  |  |  | | --- | --- | --- | |  | a. | environmentalism | |  | b. | ecology | |  | c. | the conservationist view | |  | d. | environmental ethics | |  | e. | planetary management |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9. Political scientists often look for \_\_\_\_ based on cooperation and compromise that will benefit the largest number of people as well as the environment.   |  |  |  | | --- | --- | --- | |  | a. | natural capital | |  | b. | inexhaustible resources | |  | c. | biodiversity | |  | d. | win–win solutions | |  | e. | chemical cycling |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10. More-developed countries \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | have a lower than average income | |  | b. | use mostly renewable resources | |  | c. | rely entirely on nonrenewable resources | |  | d. | comprise 17% of the world’s population | |  | e. | provide fewer recycling services |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11. The primary difference between renewable resources and nonrenewable resources is \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | how easily each can be discovered | |  | b. | the available amount of each resource | |  | c. | the length of time it takes for each to be replenished | |  | d. | how fast each is being consumed | |  | e. | how quickly each can produce electricity |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. What term describes the highest rate at which a renewable resource can be used indefinitely without reducing its available supply?   |  |  |  | | --- | --- | --- | |  | a. | conservation | |  | b. | sustainable yield | |  | c. | preservation | |  | d. | perpetual resource | |  | e. | degradation |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. Which substance would be considered a renewable resource?   |  |  |  | | --- | --- | --- | |  | a. | copper | |  | b. | oil | |  | c. | clean air | |  | d. | salt | |  | e. | sand |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 14. Which substance would be considered a nonrenewable resource?   |  |  |  | | --- | --- | --- | |  | a. | groundwater | |  | b. | trees in a forest | |  | c. | fertile soil | |  | d. | oil | |  | e. | crops |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. All nonrenewable resources can theoretically be \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | converted to nonmetallic minerals | |  | b. | converted to renewable ones | |  | c. | exhausted or depleted | |  | d. | recycled or reused | |  | e. | alive |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. To be sustainable, the total ecological footprint of an area’s population must be smaller than the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | per capita ecological footprint | |  | b. | environmental degradation | |  | c. | biocapacity | |  | d. | natural capital | |  | e. | population growth |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17. Use of a natural resource based on sustainable yields is most applicable to the idea of \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | nonrenewable resources | |  | b. | renewable resources | |  | c. | shared resources | |  | d. | amenable resources | |  | e. | recycling |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18. Which revolution occurred first?   |  |  |  | | --- | --- | --- | |  | a. | industrial–medical revolution | |  | b. | agricultural revolution | |  | c. | sustainability revolution | |  | d. | information–globalization revolution | |  | e. | ecological revolution |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19. Which activity or event illustrates natural capital degradation?   |  |  |  | | --- | --- | --- | |  | a. | use of wind power | |  | b. | saving endangered species | |  | c. | cleaning up pollution | |  | d. | aquifer depletion | |  | e. | water runoff |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20. Each of the three major cultural revolutions has allowed \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | ecological restoration | |  | b. | expansion of the human population | |  | c. | greater worldwide sustainability | |  | d. | pollution prevention | |  | e. | decreased consumption |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21. Which term refers to an average ecological footprint of an individual in a given country or area?   |  |  |  | | --- | --- | --- | |  | a. | per capita gross GNP | |  | b. | ecological footprint | |  | c. | per capita GDP | |  | d. | sustainable yield | |  | e. | per capita ecological footprint |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22. The U.N. *Millennium Ecosystem Assessment* reports that human activities have overused \_\_\_\_ percent of the earth’s natural services, and mostly since 1950.   |  |  |  | | --- | --- | --- | |  | a. | 5 | |  | b. | 10 | |  | c. | 30 | |  | d. | 60 | |  | e. | 95 |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23. The current global population is about \_\_\_\_ billion people.   |  |  |  | | --- | --- | --- | |  | a. | 3.1 | |  | b. | 4.5 | |  | c. | 6.0 | |  | d. | 7.3 | |  | e. | 8.7 |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24. The degradation of commonly shared renewable resources is known as \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | the tragedy of the commons | |  | b. | open-access degradation | |  | c. | sustainable yield | |  | d. | the pollution factor | |  | e. | government overregulation |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25. What is the best description of an ecological deficit?   |  |  |  | | --- | --- | --- | |  | a. | The total ecological footprint is larger than the biological capacity to replenish renewable resources. | |  | b. | The total ecological footprint is smaller than the biological capacity to replenish renewable resources. | |  | c. | All nonrenewable resources have been exhausted and there are no renewable resources available. | |  | d. | The total ecological footprint is equal to the sustainable yield of renewable resources. | |  | e. | The total ecological footprint only involves the use of nonrenewable resources. |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26. In the IPAT equation, the "P" stands for \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | poverty | |  | b. | pollution | |  | c. | per capita ecological footprint | |  | d. | percent | |  | e. | population size |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27. An estimated \_\_\_\_ middle-class consumers live in China.   |  |  |  | | --- | --- | --- | |  | a. | 14 million | |  | b. | 50 million | |  | c. | 109 million | |  | d. | 320 million | |  | e. | 1 billion |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28. The first major cultural change that occurred in the human population was the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | information–globalization revolution | |  | b. | agricultural revolution | |  | c. | industrial–medical revolution | |  | d. | technological revolution | |  | e. | sustainability revolution |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29. Living sustainably on natural income can be compared to \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | winning the lottery every year | |  | b. | saving your money rather than investing it | |  | c. | spending more money than your income provides | |  | d. | spending all your money on lottery tickets | |  | e. | living on the interest generated by an investment of capital |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30. One major cause of environmental problems is \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | an increasing isolation from nature | |  | b. | a reliance on ecosystem services | |  | c. | sustainable resource use | |  | d. | full-cost pricing | |  | e. | chemical cycling |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31. Most of the U.S. environmental laws now in place were enacted during the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | 1890s | |  | b. | 1930s | |  | c. | 1950s | |  | d. | 1970s | |  | e. | 1990s |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 32. Which revolution began about 50 years ago and involved the development of technologies for gaining rapid access to all kinds of information and resources on a global scale?   |  |  |  | | --- | --- | --- | |  | a. | the technology revolution | |  | b. | the information—globalization revolution | |  | c. | the agricultural revolution | |  | d. | the industrial—medical revolution | |  | e. | the sustainability revolution |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 33. A planetary management worldview is a variation of which environmental worldview?   |  |  |  | | --- | --- | --- | |  | a. | life-centered worldview | |  | b. | environmental ethics worldview | |  | c. | human-centered worldview | |  | d. | earth-centered worldview | |  | e. | preservationist worldview |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 34. At the world’s current average rate of use per person, how many planet Earths would we need in order to provide an endless supply of renewable resources?   |  |  |  | | --- | --- | --- | |  | a. | 0.5 | |  | b. | 0.9 | |  | c. | 1 | |  | d. | 1.5 | |  | e. | 2 |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 35. The marketplace prices of goods and services do not include the \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | overhead cost of raw materials | |  | b. | supply-side costs of manufacturing | |  | c. | environmental costs of resource use | |  | d. | manufacturer’s cost of distribution | |  | e. | cost of advertising a product |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 36. Subsidies and tax breaks to assist companies with using resources to run their businesses are \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | helpful to the environment | |  | b. | not helpful to the economy | |  | c. | not actually helpful to these companies | |  | d. | not helpful to the environment | |  | e. | not helpful to individuals |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 37. What term refers to the set of assumptions and values concerning how you think the natural world works and how you think you should interact with the environment?   |  |  |  | | --- | --- | --- | |  | a. | environmental worldview | |  | b. | environmental justice | |  | c. | environmental ethics | |  | d. | environmental economics | |  | e. | environmental capital |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 38. What viewpoint embodies the idea that we should be caring and responsible managers of the earth?   |  |  |  | | --- | --- | --- | |  | a. | the planetary management worldview | |  | b. | the stewardship worldview | |  | c. | the  environmental wisdom worldview | |  | d. | the environmental justice movement | |  | e. | the renewable worldview |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 39. Which statement represents an earth-centered environmental worldview?   |  |  |  | | --- | --- | --- | |  | a. | Continuous rapid economic growth improves environmental conditions. | |  | b. | Our success depends on learning how life sustains itself. | |  | c. | Maximizing research funding is the key to controlling the environment. | |  | d. | Human beings are the most important life forms on the earth. | |  | e. | There are always more resources. |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 40. What is the primary cause of nature deficit disorder?   |  |  |  | | --- | --- | --- | |  | a. | too much poverty | |  | b. | too much affluence | |  | c. | increased isolation from the natural world | |  | d. | poor sanitation | |  | e. | increased pollution |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 41. Growth that is \_\_\_\_ starts off slowly, but after only a few doublings, grows enormous numbers.   |  |  |  | | --- | --- | --- | |  | a. | exponential | |  | b. | logarithmic | |  | c. | parallel | |  | d. | linear | |  | e. | quadratic |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 42. How many people can the earth support indefinitely?   |  |  |  | | --- | --- | --- | |  | a. | No one knows. | |  | b. | 5 billion | |  | c. | 10 billion | |  | d. | 15 billion | |  | e. | 20 billion |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 43. According to the World Bank, about how many people worldwide live in extreme poverty?   |  |  |  | | --- | --- | --- | |  | a. | 1 million | |  | b. | 9 million | |  | c. | 40 million | |  | d. | 100 million | |  | e. | 1 billion |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 44. What is one of the root causes of environmental problems?   |  |  |  | | --- | --- | --- | |  | a. | rapid population growth | |  | b. | even global distribution of wealth | |  | c. | increasingly sustainable use of resources | |  | d. | absorption of environmental costs in goods and services | |  | e. | decreased use of nonrenewable resources in more-developed countries |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 45. What situation is most likely to occur as a result of poverty?   |  |  |  | | --- | --- | --- | |  | a. | increased media attention on children’s health | |  | b. | access to clean drinking water | |  | c. | increased consumption in average | |  | d. | spread of disease from poor sanitation | |  | e. | heart disease and diabetes from obesity |  |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 46. Exponential growth occurs when a population increases at a(n) \_\_\_\_ per unit time.   |  |  |  | | --- | --- | --- | |  | a. | fixed number | |  | b. | rate that decreases | |  | c. | fixed percentage | |  | d. | slow rate | |  | e. | unpredictable rate |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 47. Nature deficit disorder is most likely to contribute to \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | natural capital | |  | b. | poverty | |  | c. | stress | |  | d. | poor sanitation | |  | e. | dependence |  |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 48. Affluence typically results in \_\_\_\_.   |  |  |  | | --- | --- | --- | |  | a. | continually accelerating population growth | |  | b. | less educational attainment | |  | c. | increased poverty | |  | d. | reduced consumption | |  | e. | environmental degradation |  |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 49. Research by social scientists suggests that it takes \_\_\_\_ percent of the population of a community, country, or the world to bring about major social change.   |  |  |  | | --- | --- | --- | |  | a. | 1−2 | |  | b. | 5−10 | |  | c. | 20−30 | |  | d. | 40−50 | |  | e. | 70−75 |  |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 50. What is the best description of natural income?   |  |  |  | | --- | --- | --- | |  | a. | renewable resources provided by the earth’s natural capital | |  | b. | nonrenewable resources created by humans | |  | c. | income based on government subsidies | |  | d. | excess resources remaining after our ecological footprint | |  | e. | new and alternative resources created by humans |  |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 51. While we are heavily dependent on the environment, we are not dependent on it for everything we need to stay alive and healthy.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 52. Environmental science is a branch of environmentalism and has the aim of protecting the earth's life-support systems.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 53. Three scientific principles of sustainability of life on this planet are dependence on solar energy, biodiversity, and chemical cycling.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 54. In environmental science, individuals tend to matter less because the issues are global in nature.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 55. Take away solar energy and all natural capital would collapse.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 56. The responsibility to leave the planet’s life-support systems in a condition that is as good as or better than it is now for future generations is a matter of ethics.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 57. The tragedy of the commons refers to a lack of agricultural resources available for the common (poor) people in a country.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 58. ​An ecological footprint is the amount of biologically productive land and water required to supply a population in an area with renewable resources and recycling of wastes and pollution.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 59. Pollutants are all human-made; in other words, they cannot enter the environment naturally.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 60. Developing a kind of tape that resembles the surface structure of gecko feet is an example of biomimicry.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 61. Species are currently becoming extinct at the same rate as during pre-human times.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 62. China has the world’s largest population and second-largest economy.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 63. A basic cause of environmental problems results from the fact that companies using resources have to pay for the cost of the harmful environmental costs of supplying their products.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 64. Globally, life spans are decreasing, infant mortality is increasing, and the population growth rate is accelerating.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 65. Living sustainably means living on natural income.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Consider the total and per capita ecological footprints of the selected countries below and then use the data to answer the accompanying question.   |  |  |  | | --- | --- | --- | | **Country** | **Total Ecological Footprint (hectares/person)** | **Share of Global Biological Capacity (%)** | | United States | 2,810 | (25%) | | European Union | 2,160 | (19%) | | China | 2,050 | (18%) | | India | 780 | (7%) | | Japan | 540 | (5%) |   ​  ​ |

|  |  |  |
| --- | --- | --- |
| 66. The total ecological footprint of China is relatively large. So why is the per capita ecological footprint of China so small?   |  |  | | --- | --- | | *ANSWER:* | China has a large population. | |

|  |
| --- |
| **​Narrative:**  The IPAT model of environmental impact uses the following equation:  ​  Impact (I) = Population (P) × Affluence (A) × Technology (T)  ​  Use this equation to answer the following three questions.  ​ |

|  |  |  |
| --- | --- | --- |
| 67. What is the key factor in total environmental impact in most less-developed countries?   |  |  | | --- | --- | | *ANSWER:* | Population size | |

|  |  |  |
| --- | --- | --- |
| 68. What is the key factor in total environmental impact in most more-developed countries?   |  |  | | --- | --- | | *ANSWER:* | Affluence | |

|  |  |  |
| --- | --- | --- |
| 69. For two countries with the same population size and affluence, what would differentiate their total environmental impacts?   |  |  | | --- | --- | | *ANSWER:* | The harmful environmental effects of technologies used in each country would be the differentiator. | |

|  |  |  |
| --- | --- | --- |
| 70. What are two ways to deal with the degradation of a shared resource?   |  |  | | --- | --- | | *ANSWER:* | One is to use a shared or open-access renewable resource at a rate well below its estimated sustainable yield by using less of the resource, regulating access to the resource, or doing both. The other way is to convert shared renewable resources to private ownership. | |

|  |  |  |
| --- | --- | --- |
| 71. Many scientists contend that the earth is the only real example of a sustainable system. What are the three major natural factors have played the key roles in the long-term sustainability of life on this planet? How can you apply each to your life?   |  |  | | --- | --- | | *ANSWER:* | The three scientific principles of sustainability are:   * Dependence on solar energy * Biodiversity * Chemical cycling   ​Application answers will vary. | |

|  |  |  |
| --- | --- | --- |
| 72. Describe what Garrett Hardin meant by the tragedy of the commons, and give an example.   |  |  | | --- | --- | | *ANSWER:* | Hardin uses the term to indicate a resource that no one owns individually, that is held “in common,” and which is available for exploitation. Open range land, owned by the government but used by ranchers to graze cattle, is an example. | |

|  |  |  |
| --- | --- | --- |
| 73. The “biological capacity” is the ability of the natural world to replenish its renewable resources and absorb the resulting waste products and pollution. Exceeding the biological capacity creates an “ecological deficit.” Discuss the potential future implications for the earth resulting from the fact that we are currently exceeding the earth’s biological capacity by about 50 percent.   |  |  | | --- | --- | | *ANSWER:* | Overuse of a resource will result in its degradation and ultimately its permanent loss. The pollution levels resulting from the use of the resource will overcome the biological capacity to cleanse the earth and societies will suffer from both results. | |

|  |  |  |
| --- | --- | --- |
| 74. What is an environmental worldview? Discuss your environmental worldview and explain why you hold this viewpoint.   |  |  | | --- | --- | | *ANSWER:* | An environmental worldview is a set of assumptions and values reflecting how one things the world works and what they think their role in the world should be.  ​  The remainder of the answer will depend on the student’s worldview. | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 75. ​Air pollution from industry is an example of a tragedy of the commons.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |
| --- |
| Figure 1.11 Exponential growth  ​ |

|  |  |  |
| --- | --- | --- |
| 76. ​In the accompanying figure, note that following the Black Death around 1350 A.D., the line representing the total human population rose dramatically. This rise indicates a fundamental relationship between births, deaths, and growth rates. Discuss this relationship, indicating why the steep rise occurred, and why an expected leveling off may occur soon.   |  |  | | --- | --- | | *ANSWER:* | The death rate fell without a drop in birth rates. Leveling off will result when birth rate drops. | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 77. ​The per capita ecological footprint in the United States is lower than the global average.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 78. ​The shielding of UV radiation provided by the ozone layer is an example of an ecosystem service.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 79. In nature, waste = useful resources.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | True | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 80. ​In the IPAT model of environmental impact, technology is always harmful.   |  |  |  | | --- | --- | --- | |  | a. | True | |  | b. | False |  |  |  | | --- | --- | | *ANSWER:* | False | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ​*Match the term with the most appropriate description.*   |  |  | | --- | --- | | a. | ​Teddy Roosevelt | | b. | ​John Muir | | c. | ​Rachel Carson | | d. | ​preservationist view | | e. | ​conservationist view | |

|  |  |  |
| --- | --- | --- |
| 81. ​proponent of the preservationist view   |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |
| --- | --- | --- |
| 82. ​belief that all public lands should be managed wisely and scientifically, primarily to provide resources for people   |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |
| --- | --- | --- |
| 83. ​author of *Silent Spring*, which documented the pollution of air, water, and wildlife from the widespread use of pesticides such as DDT   |  |  | | --- | --- | | *ANSWER:* | c | |

|  |  |  |
| --- | --- | --- |
| 84. ​proponent of the conservationist view   |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |
| --- | --- | --- |
| 85. ​belief that wilderness areas on some public lands should be left untouched so they could exist indefinitely   |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ​*Match the term with the most appropriate description.*   |  |  | | --- | --- | | a. | ​environmental ethics | | b. | ​environmental worldview | | c. | ​human-centered environmental worldview | | d. | ​life-centered environmental worldview | | e. | ​earth-centered environmental worldview | |

|  |  |  |
| --- | --- | --- |
| 86. ​the belief that all species have value in fulfilling their particular role within the biosphere, regardless of their potential or actual use to humans   |  |  | | --- | --- | | *ANSWER:* | d | |

|  |  |  |
| --- | --- | --- |
| 87. ​a set of assumptions and values concerning how the natural world works and how you think you should interact with the environment   |  |  | | --- | --- | | *ANSWER:* | b | |

|  |  |  |
| --- | --- | --- |
| 88. ​the idea that we are part of, and dependent on, nature, and the earth’s natural capital exists for all species, not just for humans   |  |  | | --- | --- | | *ANSWER:* | e | |

|  |  |  |
| --- | --- | --- |
| 89. ​the study of varying beliefs about what is right and wrong with how we treat the environment   |  |  | | --- | --- | | *ANSWER:* | a | |

|  |  |  |
| --- | --- | --- |
| 90. ​the idea that the natural world is a support system for human life   |  |  | | --- | --- | | *ANSWER:* | c | |