

CHAPTER 22--CITIES AND SUSTAINABILITY

Student: _____

1. The major means of transportation for citizens of Curitiba, Brazil, is
 - A. walking
 - B. biking
 - C. mass transit
 - D. alternative fuel vehicles
 - E. personal motor vehicles
2. Which of the following is *not* described as a characteristic of Curitiba, Brazil?
 - A. bike paths throughout the city
 - B. networks of pedestrian walkways connected to bus stations
 - C. free health care for the poor
 - D. high rates of recycling
 - E. reduced population
3. What percentage of the world's population lives in urban areas at the present time?
 - A. 50
 - B. 66
 - C. 75
 - D. 80
 - E. 100
4. Today there are _____ megacities, cities with more than 10 million inhabitants.
 - A. 9
 - B. 18
 - C. 29
 - D. 39
 - E. 49
5. What percentage of U.S. citizens live in urban areas at the present time?
 - A. 99
 - B. 89
 - C. 79
 - D. 69
 - E. 59

6. A megacity has a population of _____ million, while hypercities have a population of _____ million.
- A. 1; 5
 - B. 5; 10
 - C. 10; 20
 - D. 20; 40
 - E. 40; 60
7. Which of the following is *not* a trend in urban population dynamics?
- A. The proportion of the global population in urban areas is increasing
 - B. Urban growth is much slower in developed countries than developing countries.
 - C. Infrastructure is beginning to catch up with the need in developing countries.
 - D. Poverty is becoming increasingly urbanized, especially in developing countries.
 - E. The numbers of and sizes of urban areas are mushrooming.
8. Which of the following statements is *false*?
- A. The shift in poverty is moving rapidly from the city to the country.
 - B. Developing countries are currently urbanizing faster than developed countries.
 - C. Urbanization varies throughout the world but is increasing everywhere.
 - D. The general population growth also contributes to urban growth.
 - E. The shift in poverty is moving rapidly from the country to the city.
9. Which of the following pulls people to urban areas?
- A. declining agricultural jobs
 - B. war
 - C. famine
 - D. lack of land to grow food
 - E. better health care
10. Which one of the following is not one of the phases of urbanization as experienced in the United States?
- A. migration from rural areas to large central cities
 - B. migration from large central cities to smaller cities and suburbs
 - C. migration by economic status from West to East
 - D. migration from North and East to South and West
 - E. migration from cities and suburbs to developed areas outside suburbs
11. Nearly ____ of Americans live in consolidated metropolitan areas with 1 million or more people.
- A. one-tenth
 - B. one-quarter
 - C. one-half
 - D. three-quarters
 - E. nine-tenths

12. The U.S. population is
- A. shifting to the north and east
 - B. shifting to the north and west
 - C. shifting to the south and east
 - D. shifting to the south and west
 - E. shifting to the north and south
13. Which has *not* been a major factor promoting urban sprawl in the United States?
- A. A surplus of rural open space is still available.
 - B. Federal loan guarantees to WWII veterans.
 - C. The Homestead Act giving land away in many areas of the country.
 - D. Cheap gasoline.
 - E. Poor urban planning.
14. Bowash is a
- A. form of noise pollution
 - B. deteriorating urban infrastructure
 - C. government policy that promotes sprawl
 - D. metropolitan area
 - E. megalopolis on the east coast of the United States
15. In the United States since 1920, many problems have improved because of the move to urban areas. Which of the following is not one of the improvements?
- A. most people have better working and housing conditions
 - B. improved infrastructure
 - C. greatly reduced incidence of infectious diseases
 - D. reduced destruction of wildlife habitat in rural areas
 - E. better water and air quality
16. Which of the following is *not* a disadvantage of urbanization?
- A. Cities have excessive noise.
 - B. Cities lack vegetation.
 - C. Cities lack economic development, technological advances and jobs
 - D. Cities have water resource and pollution problems.
 - E. Cities are often characterized by urban heat islands.
17. In less-developed countries poverty is a way of life for how many people at the present time?
- A. 500 million
 - B. 50 million
 - C. 4 billion
 - D. 1 billion
 - E. 2.75 billion

18. Urban populations occupy about ____ of the planet's land area, but consume about ____ of the earth's resources.
- A. 20%; 73%
 - B. 4%; 33%
 - C. 44%; 88%
 - D. 2%; 75%
 - E. 40%; 50%
19. Which of the following is *not* an environmental benefit of urbanization?
- A. Birth rates are lower.
 - B. Concentrating people preserves biodiversity.
 - C. Reduction of climate-changing carbon dioxide
 - D. Recycling is more economically feasible.
 - E. Efficient mass transportation saves energy
20. Which of the following is a problem experienced by residents of Mexico City?
- A. severe air pollution
 - B. nearly 50% unemployment
 - C. deafening noise
 - D. inadequate public transportation
 - E. all of these are problems
21. Permanent damage to the ears begins after an eight hour exposure to ____ decibels.
- A. 66
 - B. 85
 - C. 105
 - D. 120
 - E. 142
22. Cities generate large amounts of heat because of factories, cars, lights, air conditioning, and dark roofs. This creates a phenomenon called
- A. Urban heat island
 - B. Light pollution
 - C. Heat pump
 - D. Heat stroke
 - E. None of these
23. Which of the following is *not* a water problem associated with cities?
- A. erosion of food growing farmlands
 - B. building expensive reservoirs and deeper wells
 - C. flooding
 - D. rapid runoff overloading storm sewers
 - E. destruction of wetlands

24. The most populous city in the world is ____.
- A. Mexico City
 - B. Sao Paulo
 - C. Tokyo
 - D. New York City
 - E. Bombay
25. "Fecal snow" is characteristic of
- A. Sao Paulo.
 - B. Mexico City
 - C. Calcutta
 - D. Rio de Janeiro
 - E. Bombay
26. Which of the following is not a direct reason for Mexico City's photochemical smog problem?
- A. too many cars
 - B. polluting industries
 - C. sunny climate
 - D. topographical bad luck
 - E. hydrogen sulfide from local volcanoes
27. Breathing the air of Mexico City is like smoking ____ pack(s) of cigarettes each day.
- A. 1
 - B. 2
 - C. 3
 - D. 4
 - E. 5
28. Your text described all of the following actions to reduce Mexico City's air pollution, *except*
- A. banning cars from a central zone
 - B. tax incentives to improve energy efficiency
 - C. phasing out leaded gasoline
 - D. replaced old buses and taxis
 - E. planting 25 million trees
29. In the United States, ____% of all urban transportation is by car.
- A. 58
 - B. 68
 - C. 78
 - D. 88
 - E. 98

30. All of the following are considered hidden costs of automobiles, *except*
- A. deaths and injuries from automobile accidents
 - B. fastest growing source of climate-changing carbon dioxide
 - C. premature deaths due to air pollution
 - D. the sticker price at the automobile dealer's location
 - E. congestion
31. Advantages of automobiles include all of the following, *except*
- A. symbols of power
 - B. mobility
 - C. energy efficiency.
 - D. basis of much of world's economy
 - E. convenience of use
32. Which of the following statements is *false*?
- A. A bicycle promotes physical fitness.
 - B. Bicycles reduce the need for parking spaces.
 - C. A bicycle is slightly less expensive to buy and operate than a car.
 - D. Annual global sales of bicycles exceed sales of cars by 2.5 times.
 - E. Bicycles produce no pollution.
33. If you visit Curitiba, Brazil, you would expect to find
- A. no recycling program
 - B. a sophisticated bus system
 - C. urban blight
 - D. polluted air
 - E. no high-rise apartments
34. In the United States, what approximate percentage of households do not have reasonable access to bus or train service?
- A. 10
 - B. 25
 - C. 33
 - D. 50
 - E. 75
35. Which of the following is *not* a disadvantage of buses in cities?
- A. lose money because they need low fares to attract riders
 - B. noisy
 - C. can get caught in traffic
 - D. more expensive than heavy-rail system
 - E. commits riders to follow transportation schedules

36. Disadvantages of rapid rail include all of the following *except*
- A. reduces need for air travel
 - B. costly to run and maintain
 - C. noisy for nearby residents
 - D. some risk of collision at car crossings
 - E. adds vibration for those living nearby
37. Zipcars are which of the following?
- A. a cross between a bicycle and a small car
 - B. small electric cars good for 1 hour of travel
 - C. high-speed rail cars for short distances
 - D. mechanical spring operated automobile
 - E. car-sharing rent-a-car
38. Ninety percent of the funds used to support local government services (schools, roads, police and fire protection, welfare, and so on) come from
- A. income taxes
 - B. sales tax
 - C. property taxes
 - D. fees and licenses
 - E. gifts
39. Which of the following is a disadvantage of zoning in cities?
- A. can control population growth
 - B. can be influenced by developers
 - C. can encourage high density development along mass transit
 - D. can reduce automobile use
 - E. can reduce air pollution
40. Which of the following is *not* a disadvantage of zoning in cities?
- A. can be used to provide low-cost housing
 - B. can be used to threaten environmentally sensitive areas
 - C. can be used to reduce open areas
 - D. can be used to reduce innovative solutions
 - E. can be used to favor expensive developments
41. Which country has taken the strongest stand against urban sprawl?
- A. United States
 - B. Canada
 - C. Netherlands
 - D. China
 - E. India

42. Which of the following tools is *not* used by Portland, Oregon, to control sprawl?
- A. boundaries beyond which growth can not occur
 - B. efficient light rail and bus system
 - C. cluster development
 - D. encourage employers to give bus passes instead of parking spaces to employees
 - E. installation of an extensive network of bike paths
43. Which of the following is *not* a principle of new urbanism?
- A. Provide increased money for highway improvements to avoid traffic congestion.
 - B. Make most places in community within a 10 minute walk.
 - C. Provide mixed land uses in a small geographical area.
 - D. Emphasize beauty and aesthetics in architectural design.
 - E. Create development of land with minimal environmental impact.
44. Which of the following is *not* a characteristic of an ecocity?
- A. It is oriented to people not cars.
 - B. Plants are adapted to local climate and soils.
 - C. Small organic gardens replace monoculture lawns.
 - D. Most food comes from long distances via ecofriendly vehicles.
 - E. Lots of education opportunities to learn about the environment.
45. Vauban, a suburb of Freiburg, Germany, seeks to be virtually free of cars by doing all of the following, except
- A. numerous bicycle paths
 - B. banning all cars in the suburb
 - C. homes located near train lines
 - D. restricting car owners to two places to park
 - E. mass transit connects to larger city
46. Seventy-two percent of the population of Curitiba, Brazil, are transported by the city bus system on a daily basis.
- True False
47. Curitiba recycles 100% of its paper and 74% of its metal, glass, and plastic.
- True False
48. Curitiba, Brazil has seen its per capita GDP jump from 10% above average in 1980 to 65% above average in 1996, in part because of the ecocity concept.
- True False

49. One reason people in less-developed countries move to cities is because governments tend to spend their budgets on economic development and job creation in urban areas.
- True False
50. A megacity or megalopolis is a city with 25 million or more people.
- True False
51. The vital public infrastructure, such as sewers and bridges, is \$2.2 trillion behind in important maintenance.
- True False
52. Even with projected droughts and heat waves, the states that are expected to grow the fastest are Nevada, Arizona, and Florida.
- True False
53. The exurbs are people who used to live in the suburbs and have now moved to the central city.
- True False
54. Urban Sprawl is the product of affordable land, automobiles, cheap gasoline, and little urban planning.
- True False
55. Between 1800 and 2008, the percentage of the U.S. population living in urban areas increased from 30% to 50%.
- True False
56. Urban Sprawl has led to the economic deaths of many economic central cities.
- True False
57. As the baby boomer generation continues to age the suburban population continues to grow in size.
- True False
58. Analysts project that the year 2025 will see a significant shortage of large-lot homes in the United States suburbs and exurbs.
- True False
59. The United Nations estimates at least 1 billion people in developing countries live in crowded and unsanitary conditions in cities.
- True False

60. Rural residents in many parts of the world tend to live longer than do urban residents.
True False
61. Most of the world's cities have huge ecological footprints and are not self-sustaining systems.
True False
62. Parts of the urban population in parts of the dry states of the western United States may have to leave because of the effects of global climate change.
True False
63. Continuing exposure to noise at 85 dbA can cause permanent hearing loss.
True False
64. People who live in squatter settlements, on the streets, or in shantytowns seldom have adequate shelter, proper sanitary facilities, or clean water.
True False
65. Mexico City has severe air pollution, but it does have high employment rates^{3/4}nearly 85% in 2008.
True False
66. Mexico City's air and water pollution cause an estimated 100,000 premature deaths per year.
True False
67. Because of urban sprawl, Americans drive about the same distance each year as all other drivers in the world, combined.
True False
68. In the urban areas of the United States three out of four residents drive alone to work.
True False
69. Automobile accidents have killed more Americans than all wars in the country's history.
True False
70. U.S. motorists will soon spend an average of 5 years of their lives in traffic jams.
True False

71. If full-cost pricing tax was applied to gasoline in the United States, the cost of a gallon of gasoline would be approximately \$12.
- True False
72. An efficient U.S. mass transit system, a trolley or streetcar system in place at the beginning of the 20th Century, was dismantled by automobile manufacturers and their allies.
- True False
73. Using smart growth techniques, the city of Portland, Oregon, which has increased in population by about 50% since 1975, has kept the urban area growth to an increase of only 2%.
- True False
74. China has paid the least attention to issues of urban sprawl, losing great amounts of its arable land.
- True False
75. Some large cities surround themselves with a greenbelt, an open area reserved for recreation, sustainable forestry, or other nondestructive uses.
- True False
76. New urbanism is a concept of developing mixed-use neighborhoods within cities.
- True False
77. An ecocity is an effort to design a city around the car so that the harmful effects of their use can be minimized.
- True False
78. Since 1920 in the United States, better sanitation, clean water supplies, and medical care have reduced the incidence of _____ .
- _____
79. Urban areas grow by _____ and by _____ .
- _____
80. The United States has just _____ cities with one million or more people.
- _____
81. Three-fourths of Americans live in cities or towns with at least _____ people.
- _____

82. A 2007 study by the U.S. American Society of Civil Engineers indicated the United States had fallen _____ behind in maintaining its vital public infrastructure.
- _____
83. Growth of a low-density development of the edge of cities and towns that decreases farmland or forests is referred to as _____.
- _____
84. Most urban areas do not benefit from _____ that would absorb air pollutants, give off oxygen, help cool the air, and muffle noise.
- _____
85. _____ pollution can affect various plant and animal species, such as endangered sea turtles and migrating birds.
- _____
86. _____ are the world's largest source of outdoor air pollutants.
- _____
87. _____ percent of all major urban U.S. highways are regularly congested.
- _____
88. The average U.S. motorist will spend _____ of their life in traffic jams.
- _____
89. At one time, all major U.S. cities had effective light-rail systems, but they were dismantled to promote _____ and _____ use.
- _____
90. _____ uses zoning laws and an array of other tools to channel growth to areas where it can cause less harm.
- _____
91. China has designated 80% of the country's _____ as fundamental land, with building on such land requiring approval from local and provincial governments.
- _____
92. A traditional way to preserve large blocks of open space is to create _____.
- _____

93. A(n) _____ is a people-oriented city, not a car oriented city.

94. An innovative approach to urban environmental problems is the _____ in which small groups of people come together to design and live in more sustainable villages and neighborhoods.



Use the Figure above to answer the following question(s).

For the city of London, England, how large is the supply area required to provide the input resources? How many earths would it take to supply everyone on the planet if we all consumed resources at the same rate as Londoners?

96.



Use the Figure above to answer the following question(s).

Of all the outputs listed, which ones are least likely to cause problems for the environment and the urban dwellers?

97.



Use the Figure above to answer the following question(s).

Why do raw materials brought to cities require a great amount of resources to be converted to a final product?

98. Compare the advantages and disadvantages of mass transit rail lines.

99. Urban sprawl is a problem in the United States. The authors list five major factors accounting for this sprawl. Explain what urban sprawl is, and then choose two of those five factors and discuss how those two factors enabled sprawl to become such a problem.
100. The authors suggest that reducing automobile use could be done, but it would be difficult. One way that such an approach could occur would be to introduce “full-cost pricing” by levying a tax on gasoline. Explain why the authors think this approach would be “difficult in the United States.” Be certain to use the three reasons the authors give for this opinion.

CHAPTER 22--CITIES AND SUSTAINABILITY **Key**

1. C
2. E
3. A
4. B
5. C
6. C
7. C
8. A
9. E
10. C
11. C
12. D
13. C
14. E
15. B
16. C
17. D
18. D
19. C
20. E
21. B
22. A
23. A
24. C
25. B
26. E
27. C
28. B
29. E
30. D

- 31. C
- 32. C
- 33. B
- 34. D
- 35. D
- 36. A
- 37. E
- 38. C
- 39. B
- 40. A
- 41. D
- 42. A
- 43. A
- 44. D
- 45. B
- 46. TRUE
- 47. FALSE
- 48. TRUE
- 49. TRUE
- 50. FALSE
- 51. TRUE
- 52. TRUE
- 53. FALSE
- 54. TRUE
- 55. FALSE
- 56. TRUE
- 57. FALSE
- 58. FALSE
- 59. TRUE
- 60. FALSE
- 61. TRUE
- 62. TRUE
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- 64. TRUE

- 65. FALSE
- 66. TRUE
- 67. TRUE
- 68. TRUE
- 69. TRUE
- 70. FALSE
- 71. TRUE
- 72. TRUE
- 73. TRUE
- 74. FALSE
- 75. TRUE
- 76. TRUE
- 77. FALSE
- 78. infectious diseases
- 79. natural increase; immigration
- 80. nine
- 81. 50,000
- 82. \$2.2 trillion
- 83. urban sprawl
- 84. vegetation
- 85. Light
- 86. Motor vehicles
- 87. forty-five *or* 45
- 88. two years *or* 2 years
- 89. car; bus *or* bus; car
- 90. Smart growth
- 91. arable land
- 92. municipal parks
- 93. ecocity
- 94. ecovillage movement
- 95. London requires an area 58 times the size of the city to supply its residents with resources. It would require three additional planets to supply everyone on the planet with the same level of resources as Londoners.
- 96. wealth, ideas, and perhaps manufactured goods
- 97. Electricity, water, and human labor are more expensive in a city. Transportation costs are more expensive, to transport the raw materials to the city and the ship products to their final destinations.

98. Mass transit rail uses less energy and produces less air pollution when compared to automobiles. It uses less land when compared to roads and parking lots. It also causes fewer deaths and injuries than do automobiles. Disadvantages include the expense to build and maintain mass transit rail lines, which are cost-effective only along densely populated urban corridors. They also commit riders to the rails schedules, reducing the freedom automobiles offer.

99. page 591 Urban sprawl is “the growth of low-density development on the edges of cities and towns” that eliminates “surrounding agricultural and wild lands.”

5 Factors: “First, ample land was available for most cities to spread outward. Second, low-cost gasoline combined with federal and state funding of highways encouraged automobile use and the development of outlying tracts of land. Third, ...federal government home loan guarantees for World War II veterans stimulated the development of suburbs; ... Fourth, most state and local zoning laws favored large residential and commercial areas. Fifth, most urban areas consist of multiple local governments, which rarely work together to develop and overall plan for managing urban growth.”

100. page 599 1. It faces strong opposition from two groups: a. those thinking they are already overtaxed; and b. transportation-related industries. 2. The scattered nature of U.S. urban areas makes people dependent upon automobiles. 3. Mass transit and alternative forms of transportation are not widely available.