Name_____ Hour_____ Date_____

Unit 3 Test Review- Populations and Growth (chapter 5.1 & 5.2)

1. List four factors that play a role in population growth rate.
   a. _____ c. _____
   b. _____ d. _____
2. List four main characteristics of a population.
   a. _____ c. _____
   b. _____ d. _____
3. There are 17 prairie dogs per square kilometer in a certain area of Northern Mexico. To which population characteristic does this information refer? _____
4. What does the geographic distribution of a population tell you that density does not?_____
   _____
5. A small farming community in Michigan covers 16.5 square kilometers. There are 1,008 individuals who live within the town limits. Calculate the population density of this community? _____
6. What is the formula for calculating density? D=
   Write out this formula with words. _____
7. When organisms move out of the population, this is known as _____
8. The movement of organisms into a given area from another area is called _____
9. What is happening to the population? *(Increases, decreases, or stays the same)*
   a. The birthrate becomes higher than the death rate. _____
   b. The birthrate stays the same and the death rate increases. _____
   c. The birthrate becomes lower than the death rate. _____
   d. The birthrate and the death rate remain the same._____
   e. The death rate becomes lower than the birthrate. _____
   f. The death rate stays the same and the birthrate increases. _____
   g. The birthrate and the death rate remain the same. _____
   h. The death rate becomes higher than the birthrate. _____
10. What is it called when individuals in a population reproduce at a constant rate? _____
11. If immigration and emigration numbers remain equal, what might be the most important contributing factor to a slowed growth rate? _____ Accelerated growth rate? _____
12. When the exponential phase of a logistic growth curve of a population ceases, what happens to the growth of the population? _____ What is the term used to describe a cause which has contributed to this growth? _____ _____
13. In a logistic growth curve, exponential growth is the phase in which the population is doing this _____
14. As resources in a population become less available, the population reaches its _____ _____.
15. List at least 3 density-dependent limiting factors: List at least 4 density-independent limiting factors:
    a. _____ a._____
    b. _____ b. _____
    c. _____ c. _____
    d. _____
16. Fewer _____ will reduce competition within a species' population.
    Increased availability of _____ will reduce competition within a species' population.
17. What happens to the death rate of a population if the population grows larger than the carrying capacity of the environment? _____ Birthrate? _____
18. Rose bushes do not grow in desert sand because water availability to these plants in a desert is a _____ _____.
19. *Circle* the *density-dependent* factors in the Moose/Wolf population of Isle Royale:
    <u>Underline</u> the <u>density-independent</u> factors :
    - a hurricane followed by drought for both moose and wolves
    - parasitic wasps for the wolves
    - extreme temperatures for the moose
    - clear-cut forest for the moose
    - flooding for the wolves
    - disease for the wolf
    - food availability for the moose
20. A disease resulting in the deaths of two thirds of a dense population of ants living in a colony would be which type of limiting factor? _____
21. The number of individuals per unit area is a population's _____
22. How can a diagram of a population's age structure predict how it can grow? List at least 3 things.
    a. _____
    b. _____
    c. _____
23. Density-_____ limiting factors affect all populations, whether the population size is five or a five hundred. Density- _____ limiting factors depend on the size of a population.
24. Human activities, such as damming rivers, are density-_____ limiting factors. Predation and Competition are density- _____ limiting factors.
25. _____ growth occurs when a population's growth slows or stops, following a period of rapid growth.
26. If the death rate of a population is greater than the birthrate, the population _____
27. The human population experienced exponential growth after what important time period?
    _____ _____

Population Statistics in the United States From 1900 to 1990

	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990
Live births per thousand	32.3	30.1	27.7	21.3	19.4	24.1	23.7	18.4	15.9	15.6
Deaths per thousand	17.1	14.7	13.0	11.3	10.8	9.6	9.5	9.5	8.8	8.7
Number of births over deaths	15.2	15.4	14.7	10.0	8.6	14.5	14.2	8.9	7.1	6.9
Life expectancy at birth (yrs)	47.3	50.0	54.1	59.7	62.9	68.2	69.7	70.8	73.7	74.8
Increase in longevity since 1900 (yrs)		2.7	6.8	12.4	15.6	20.9	22.4	23.5	26.4	27.5

Figure 5–1

28. Examine the data in Figure 5–1. Does the number of births over deaths since 1900 increase, decrease or stay the same? _____ since 1930? _____ since 1970? _____

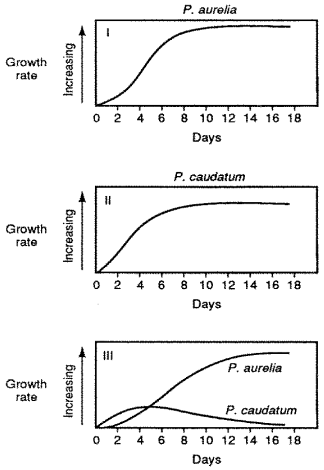
29. In which year was the number of births over deaths at its lowest point, according to Figure 5–1? _____ highest point? _____

30. According to Figure 5–1, which year had the highest number of live births per thousand of population? _____ which year had the least? _____

31. Examine the data for life expectancy at birth in Figure 5–1. Over the period of time covered by the data, the death rate decreased steadily and the birthrate has declined since 1950. What factor/s are responsible for the fact that our population is not decreasing? _____

_____

Figure 5–2



32. According to Figure 5–2, which species has the greatest initial growth rate when they are grown in separate cultures? _____ which had the slowest initial growth rate? _____

33. From Figure 5–2, which species has the greater growth rate overall when the species are grown together? _____

34. What type of population growth curve can be observed in Graphs I and II of Figure 5–2? _____

Age Structure Diagrams of Human Population

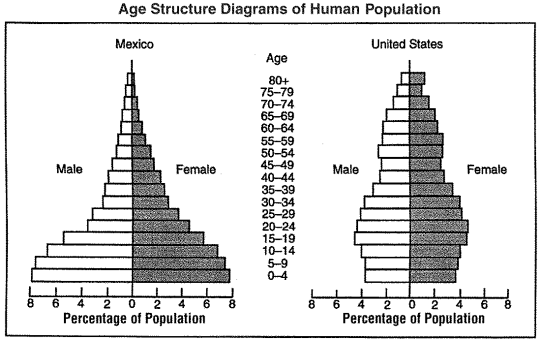


Figure 5–3

35. Using Figure 5–3, compare the human population growth of Mexico with that of the United States.

36. Using the age structure diagrams in Figure 5–3, what type of growth can the United States expect in the near future? _____ Mexico? _____

37. If the death rate fell for the Mexican population, how would a demographer describe that stage of growth? _____

What general shape (letter) would a growth curve for Mexico's population in the near future would probably look like a(n) _____ U.S. Population? _____

38. What is the estimated carrying capacity for humans. _____