Chapter 4: Section 1 & 2 Population Dynamics

As you read Chapter 4, answer the following – you may attach additional pages if needed.

1. Describe the three characteristics that all populations have.
   a. ________________________________________________________________
   b. ________________________________________________________________
   c. ________________________________________________________________

2. Describe two reasons why a species might not be able to expand its range.
   a. ________________________________________________________________
   b. ________________________________________________________________

3. Limiting factors are __________________ or __________________ factors that keep a population from continuing to increase indefinitely.

4. Differentiate between the two categories of limiting factors.
   a. Density-Independent Factor: ______________________________________
      ________________________________________________________________
      ________________________________________________________________
   b. Density-Dependent Factory: ______________________________________
      ________________________________________________________________
      ________________________________________________________________

5. Using the Isle Royale Case Study graph, infer what might have caused the increase in the number of moose in 1995.
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

6. Disease is another density-dependent factor. Outbreaks of disease tend to occur when population size has (increased/decreased) and population density is (low/high).

7. The density-dependent factor competition also (increases/decreases) when density (increases/decreases).

8. Population Growth Rate: ________________________________________
   ________________________________________________________________
   ________________________________________________________________
Emigration: ________________________________________________________________

Immigration: ________________________________________________________________

9. Compare and contrast the exponential vs. logistic growth models: ________________

__________________________________________________________________________

__________________________________________________________________________

10. Explain how births, deaths, immigration, emigration, and limiting factors affect the carrying capacity of an environment. ________________________________

__________________________________________________________________________

__________________________________________________________________________

11. The current human population growth rate is just over __________________________ people per year. At this rate, what is the expected human population in 2050? __________________________

12. Provide an explanation as to how the human population can continue to grow, while the rate of its growth has slowed. ________________________________

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__________________________________________________________________________

13. Compare the PGR’s (Population Growth Rates) of developing countries vs industrially developed countries. Why is population expected to increase in developing countries and decrease in industrially developed countries?

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__________________________________________________________________________

Age Structure: _____________________________________________________________

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