

Example questions for test two. These are just examples of the type of question to expect... there are other important topics not on this list.

1. Show and explain an equation that describes density-dependent population growth.
2. Explain four mechanisms that might provide a benefit to living in groups, from the perspective of avoiding predation. Explain four mechanisms that might provide a benefit to living in groups, from the perspective of obtaining prey. Provide at least one example.
3. What are the major differences between density dependent and density independent factors that limit population growth?
4. Show and explain a pair of equations that describe population growth for two species that experience intraspecific and interspecific competition for resources.
5. Explain Brown's economic model of territorial defense. Give an example of a study that shows animals conforming to this model.
6. Complete a life table that has values of  $N_x$  and  $m_x$  provided, and determine whether or not a population is growing. Understand how changes to the survival or fecundity rates would alter the population growth rate.
7. What is a 'stable age distribution'? How is the age distribution related to population growth? Under what circumstances will a population reach a stable age distribution? If a population deviates from the SAD, how can a Leslie matrix be used to project changes in population size.
8. What are the two components of reproductive value? How can these be used to predict whether a species should be semelparous or iteroparous?
9. Explain what Waser's experiment with white-tailed mongooses showed about the relationship between resources and territorial behavior.