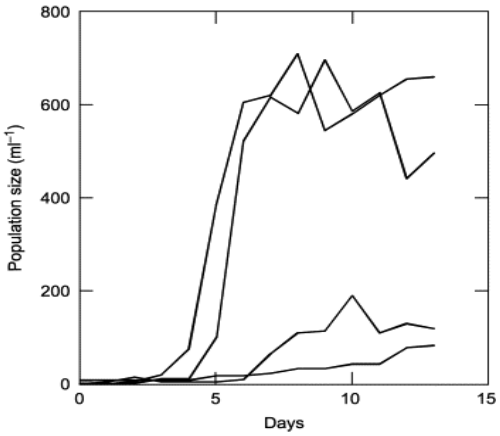
Quiz 7 Name _____

1) The population dynamics shown in this figure would probably be best described by which model? (For clarity look at the top two lines.)

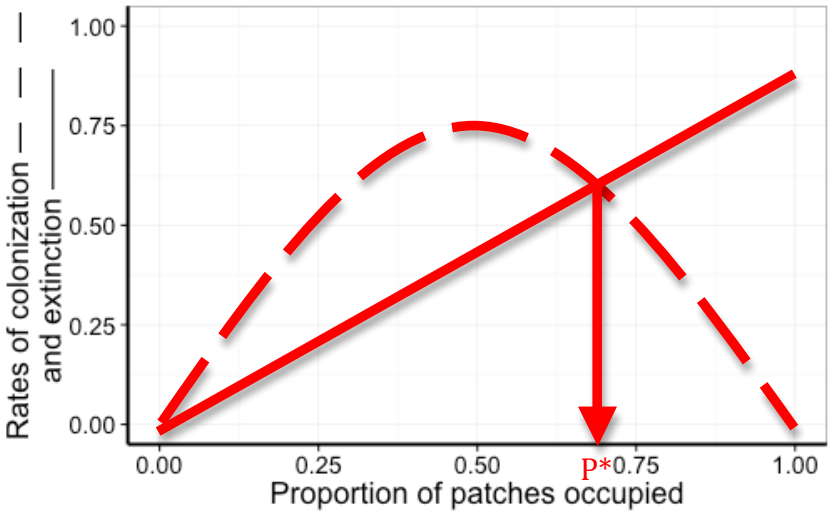
a) Geometric growth
b) Exponential growth
c) Logistic growth



$$\frac{dN}{dt} = rN\left(1 - \frac{N}{K}\right)$$

2) In the logistic equation, where is the population's growth rate the highest?

When N = K/2

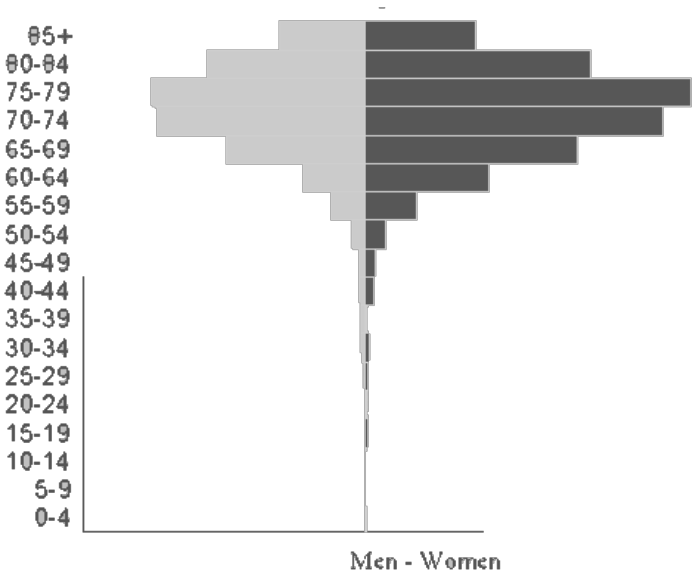


3) Patch occupancy (P) in a metapopulation is a balance between rates of colonization of open patches and extinction of already occupied patches. On the axes below, draw how the colonization rate (dashed line; 1pt) and rate of extinction (solid line; 1pt) changes with patch occupancy. Use an arrow to show where P* is given the rates you drew (arrow; 1pt)

4) True or False: When comparing species, the ones with higher birth rates, *b*, will have higher intrinsic growth rates, *r*.

5) What does this age pyramid on the right suggest about this population?

a) It is strongly K-selected
b) Individuals are not reproductive until their twenties
c) It is a retirement community



6) Provide an example of an organism (a species you know about or are interested in) facing a life history constraint (3pts)

___ / 5pts