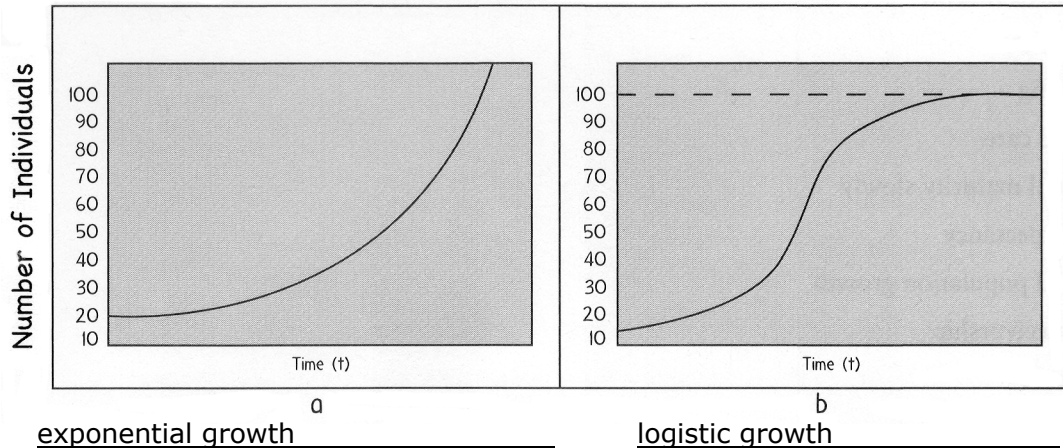


## Chapter 16: Populations

### Exponential Growth and Logistic Growth

1. Which of the following graphs shows exponential growth and which shows logistic growth?



Circle the correct answers:

2. The carrying capacity in the graph on the right is [10] [100] [more than 100] individuals.

Appendix D will help you with Questions 3 and 4.

3. Exponential growth is nicely illustrated with the children's story of a rapidly-growing beanstalk that doubles in height each day.

Suppose that one day after breaking ground the stalk is 1 centimeter high.

If growth is continual, at the end of the second day it will be [1] [2] [4] cm high.

At the end of the third day it will be [1] [2] [4] cm high.

Doubling each day results in exponential growth so that on the 36<sup>th</sup> day it reaches the Moon! Working backward, the height of the beanstalk on the 35<sup>th</sup> day was [one half] [one quarter] [one third] the distance from Earth to the Moon.

And on the 34<sup>th</sup> day the beanstalk was [one half] [one quarter] [one third] the distance from Earth to the Moon.

4. Then there is the story of a lily pond with a single leaf. Each day the number of leaves doubles, until on the 30<sup>th</sup> day the pond is completely full.

On what day was the pond half covered? [15 days] [28 days] [29 days]

On what day was it one-quarter covered? [15 days] [28 days] [29 days]

