Name _____ Date _____ Period _____

Sequences – Tables & Graphs : The Ladybug Invasion

As a biology project, Tamara is studying the growth of a ladybug population. She starts her experiment with 5 ladybugs. The next month she counts 15 ladybugs.

1. Suppose the ladybug population is growing arithmetically. How many beetles can Tamara expect to find after 2, 3, and 4 months? Write the sequence.

2. What is the common difference?

3. Now put the sequence into a table in the space below.

4. How long will it take the ladybug population to reach 200 if it is growing linearly?

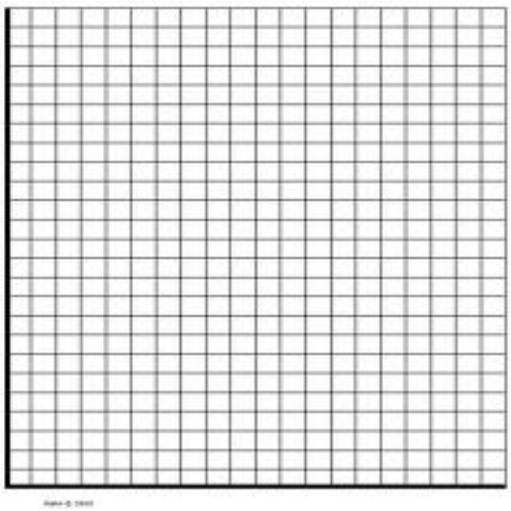
5. Suppose the ladybug population is growing exponentially. How many beetles can Tamara expect to find after 2, 3, and 4 months? Write the sequence.

6. What is the common ratio?

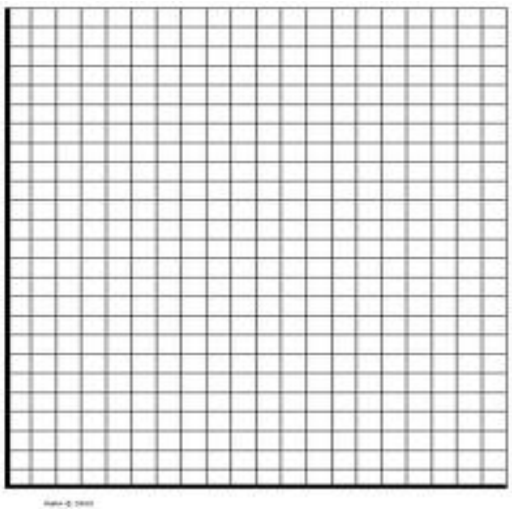
7. Now put the sequence into a table in the space below.

8. How long will it take the ladybug population to reach 200 if it is growing exponentially?

9. Graph both tables on the designated graphs provided below. Be sure to label your axes.
10. Why does it take the ladybug population longer to reach 200 when it grows linearly?



Linear Growth



Exponential Growth