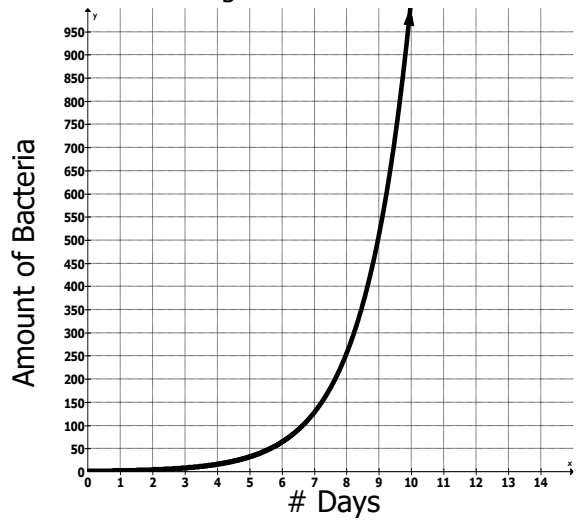


Practice - Interpreting Graphs of Exponential Functions

Name _____ Date _____ Period _____

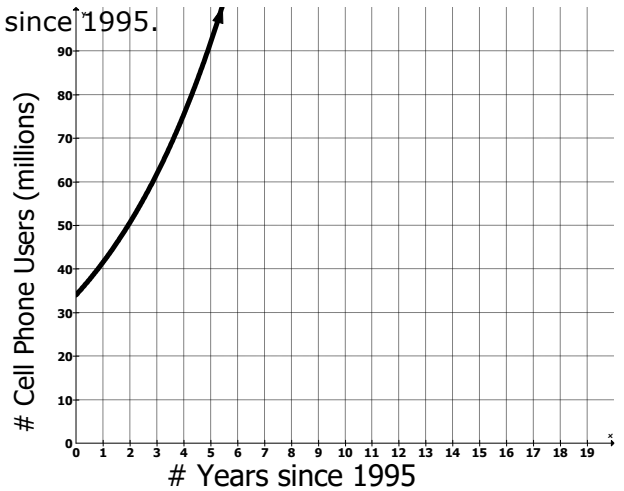
1. The graph below shows how a certain bacteria can grow at an alarming rate when each bacteria splits into two new cells, thus doubling.

- A. What was the increase between Day 8 and Day 9?
- B. After 7 days, what is the approximate number of bacteria?
- C. After about how many days was there 800 bacteria?



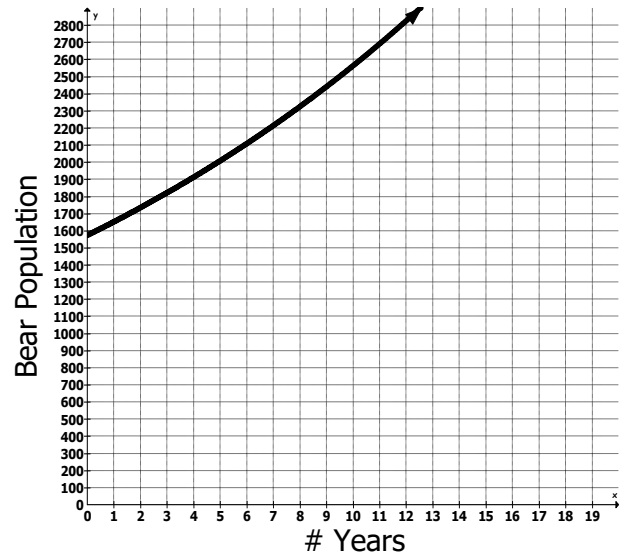
2. Cellular phone usage has grown about 22% each year since 1995.

- A. If the y -intercept is 34 (million), what does this mean?
- B. In what year were there approximately 60 million cellular phone users?



3. The bear population increases at a rate of 2% per year. There are 1573 bears this year.

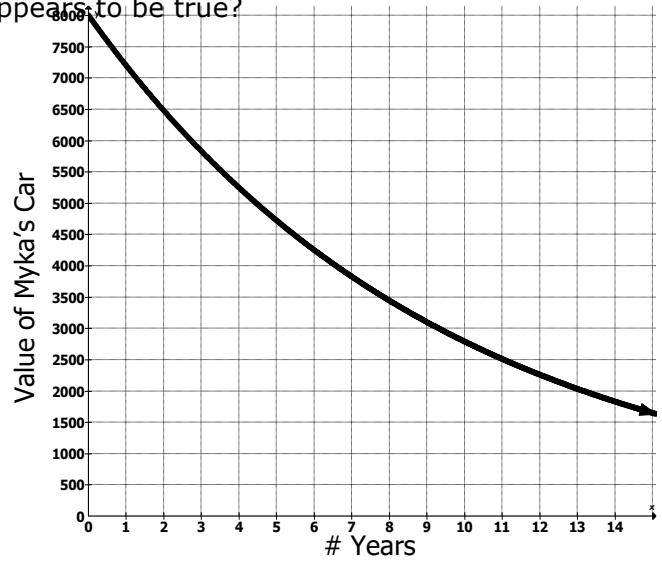
- A. How many will there be in 10 years?
- B. About how many bears will there be in 7 years?
- C. How many years will it take for the bear population to reach 2800?
- D. What is the range of this situation?



PAP Algebra I - Unit 9: Exponential Functions

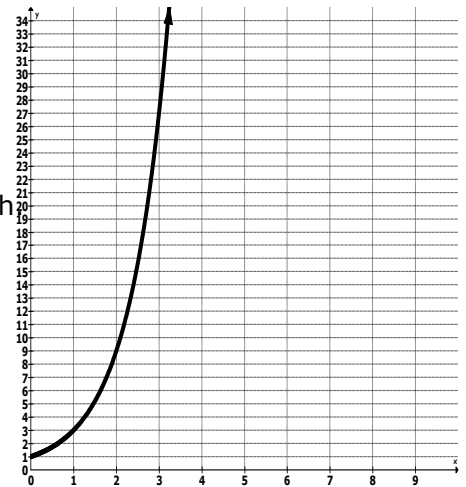
4. The graph below shows the relationship of the value of Myka's car over a period of years. According to the graph, which of the following statements appears to be true?

- A. The value of the car decreased by almost \$1000 each year.
- B. The value of the car decreased by \$500 each year.
- C. The value of the car decreased more from year 13 to year 15 than in any other year.
- D. The value of the car decreased more from year 0 to year 1 than in any other year.



5. Which statement best describes the graph shown to the right?

- A. The amount of money in John's savings when he deposits \$35 each month.
- B. The amount of money in an account that triples every month.
- C. The amount of money in Kara's checking account when she writes \$50 in checks each month.
- D. The amount of money Michael owes on his car as he makes car payments.



6. Rearrange the functions below into three related groups. Explain why you grouped the functions together. What made each function fit the characteristics of their group?

$$f(x) = -3^x$$

$$f(x) = 4$$

$$f(x) = \left(\frac{1}{2}\right)^x$$

$$f(x) = \frac{1}{2}x^2$$

$$f(x) = 2x^2 + 5$$

$$f(x) = -3x^2$$

$$f(x) = 8 - \frac{1}{2}x$$

$$f(x) = 2^x$$

$$f(x) = 2x - 5$$

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