1. In your own words, describe what compound interest is and why we use it/ why it's important!

Homework!

Flor started collecting chocolate bunnies 12 years ago. 4 years ago she had 16.08 pounds of bunnies, today she has 20.3 pounds. How many pounds of bunnies did Flor have when she began her collection?

Answer:

10.09 llb

(rate$\approx 6\%$)

In 2003, 864 people attended the school's field day. In 2006, 1483 people attended. Assuming the population was growing exponentially, find the initial population when the event started in 2000.

Answer

About 503 people

Continuous Growth and Decay

- Continuously growing/ decaying (basically every instant)
- For example, if interest is compounded continuously, then interested is growing on top of itself every instant.

$$A = Pe^{rt}$$

- A farmer plants a seedling that is one inch tall. How long will the plant be if it grows at a continuous rate of 3.2% per day for 9 days?

1. A= 1.33 in.
2. P= 1
3. r= 3.2%
4. t= 9

Terry collects acorns at a continuous rate of 11.3% per minute. If he ends up with 1,000 acorns after 7 minutes, about how many acorns did he start with?

A= 1,000

P= About 453 acorns

r= 11.3%

t= 7

Turn to the page in your packet with the page divided into 4 quadrants.

Partner Activity!!

Congratulations!! You have just won $50,000! You decide to invest your money and the bank presents you with two investment options. You may either invest your $50,000 at 5% interest, compounded monthly, for a period of ten years OR you can invest that $50,000 at 5% interest, compounded continuously, for ten years. You must figure out which investment option will yield a greater profit.