

Exponentials RW Day 3 HW

Write an exponential growth or decay function to model each situation. Then find the value of the function after the given amount of time.

1. Annual sales for a clothing store are \$270,000 and are increasing at a rate of 7% per year; 3 years
2. The bird population in a forest is about 2300 and decreasing at a rate of 4% per year; 10 years

Write a compound interest function to model each situation. Then find the balance after the given number of years.

3. \$20,000 invested at a rate of 3% compounded annually; 8 years
4. \$35,000 invested at a rate of 6% compounded monthly; 10 years
5. \$35,000 invested at a rate of 8% compounded quarterly; 5 years
6. City Bank pays a **simple interest rate** of 3% per year, meaning that each year the balance increases by 3% of the initial deposit.

National Bank pays a compound interest rate of 2.6% per year, compounded monthly.

- a. Which bank's interest rate is linear? Which bank's interest rate is exponential?
- b. Which bank will provide the largest balance if you plan to invest \$10,000 for 10 years? For 15 years?