

- Which function could represent a population that is growing at a rate of 15% per year,  $t$ ?  
A.  $P = 1,500(0.85)^t$       C.  $P = 0.85(1,500)^t$   
 B.  $P = 1,500(1.15)^t$       D.  $P = 1.15(1,500)^t$
- Jenny deposited \$400 into her bank account. The equation  $A(t) = 400(1.07)^t$  can be used to calculate the value of her money after  $t$  years. What is the annual interest rate she is earning on her deposit?  
A. 0.07%      B. 1.07%       C. 7%      D. 107%
- The function  $V(x) = 20,000(0.87)^x$  models the value of a car  $x$  years after its purchase. Which **best** describes the rate of change in the value of the car?  
A. Exponential growth of 87% each year  
B. Exponential growth of 13% each year  
C. Exponential decay of 87% each year  
 D. Exponential decay of 13% each year
- The function  $f(x) = 2,500(0.97)^x$  models the value of an investment after  $x$  months. Which statement is true about the value of the investment?  
A. The value of the investment increases by 3% each month  
 B. The value of the investment decreases by 3% each month  
C. The value of the investment increases by 97% each month  
D. The value of the investment decreases by 97% each month
- The function  $P(x) = 104(1.09)^x$  models the population of blue birds in an area  $x$  years after 1980. At what rate is the population of blue birds increasing each year?  
A. 4%       B. 9%      C. 91%      D. 96%
- The function  $y = 600(1.03)^x$  models the value of a lady's ring  $x$  years after its purchase. What percent does the value of the ring increase by each year?  
A. 0.03%      B. 1.03%       C. 3.00%      D. 103%