Math I HW#37 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which function could represent a population that is growing at a rate of 15% per year, $t$?
2. $P=1,500(0.85)^{t}$ C. $P=0.85(1,500)^{t}$
3. $P=1,500(1.15)^{t}$ D. $P=1.15(1,500)^{t}$
4. Jenny deposited $400 into her bank account. The equation $A\left(t\right)=400(1.07)^{t}$ 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?
5. 0.07% B. 1.07% C. 7% D. 107%
6. The function $V\left(x\right)=20,000(0.87)^{x}$ models the value of a car $x$ years after its purchase. Which ***best*** describes the rate of change in the value of the car?
7. Exponential growth of 87% each year
8. Exponential growth of 13% each year
9. Exponential decay of 87% each year
10. Exponential decay of 13% each year
11. The function $f\left(x\right)=2,500(0.97)^{x}$ models the value of an investment after $x$ months. Which statement is true about the value of the investment?
12. The value of the investment increases by 3% each month
13. The value of the investment decreases by 3% each month
14. The value of the investment increases by 97% each month
15. The value of the investment decreases by 97% each month
16. The function $P\left(x\right)=104(1.09)^{x}$ 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?
17. 4% B. 9% C. 91% D. 96%
18. 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?
19. 0.03% B. 1.03% C. 3.00% D. 103%