6. Nintendo brand's value decreased by 11.2% from 2002 to 2003. Assume this continues. If the company had a value of $9,220,000 in 2002, write an equation for the value of Nintendo for *t* years after 2002.

6. _____

7. A $10,500 investment has a 15% loss each year. Determine the value of the investment after each of the following.

Which Formula: _____

A. 1 year _____ B. 2 years _____

C. 4 years _____ D. 10 years _____

Independent Practice: Exponential Growth and Decay

1. Gina deposited $1500 in an account that pays 4% interest a year. Which formula models what it will be the worth in 2 years if she makes no deposits and no withdrawals?

A. $y = 1500(1.04)^2$ B. $y = 1500(.96)^2$ Growth OR Decay

2. Franklin Middle school had 130 members in its book club in 2011. If it has grown by about 3.5% each year, how many members does it have in 2014?

2. _____

3. A car sells for $25,000. If the rate of depreciation is 15%, what is the value of the car after 7 years?

. 3. _____

4. Tim bought a tractor in 1995 that cost him $45,000 and decreases in value 10% each year. If he wants to sell it this year (2007), how much will it be worth?

4._____

5. In 1969, the Antique Automobile Club of America had 23,000 members. It grew an average of 5% per year through 1985. Assuming this continued what would the membership be in 2004?

5._____

Write an exponential function to model each situation. Find each amount after the specified time.

6. The starting salary for a new employee is $25,000. The salary for this employee increases by 8% per year. What is the salary after each of the following?

Which Formula: _____

A. 1 year _____ B. 3 years _____

C. 5 years _____ D. 15 years _____

7. Suppose the same conditions from #6 are applied to someone with a starting salary of $32,000. What is the salary after each of the following?

Which Formula: _____

A. 1 year _____ B. 3 years _____

C. 5 years _____ D. 15 years _____

8. Looking at #6 and #7, what part of the formula changed? _____

9. Fill in the following chart:

Function	Initial Amount	Y-Intercept	Growth or Decay	Percent Rate
$y =.35^t$				
$y = 5(0.5)^{3t}$				
$y = (1.004)^{\frac{2}{3}t}$				
$y = 6(.35)^{\frac{1}{2}t}$				
$y = 15(1.2)^{3t}$				
$y = 24(\frac{5}{4})^{2t}$				