**Practice - Application of Exponential and Logarithmic Functions**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_

Solve:

1. A $4,000 deposit is made at a bank that pays 6% compounded annually. How much will you have in your account at the end of 10 years?
2. If you invested $12,000 in an account paying an annual percentage rate of 8%, compounded continuously, how much would you have in your account at the end of 5 years?
3. Recently, Tom found he was a distant relative of General James Wolfe who died at the battle on the Plains of Abraham in 1759. When he died in 1759 he left $600 in his will which now belongs to Tom. The money has been in a savings account where it has been earning interest at 4% per year, compounded annually. How much will Tom have in the year 2015?
4. You bought your home for $420,000 and its value increases each year by 8%. Approximately, how many years will it take for the house to be work $600,000?
5. The Houston Astrodome was the first baseball and football stadium to be completely enclosed. It was completed in 1965 at a cost of 45.35 million dollars. Construction costs have increased approximately 6% each year since 1965. How much would it cost to build the Astrodome today?
6. Karen has $5000 to invest in two stocks. She decides to invest $3200 in TI stock that pays 11.3% interest and $1800 in a Movie Company stock that pays 10.5% interest in which both were compounded daily. How much money would she make after investing for two years?
7. John Matterson wants to save $7000 as a down payment for a car that he plans to buy in 6 years. How much money should he deposit into a Money Market account that pays 6.5% interest compounded continuously to earn his down payment?
8. Jason and Laura are buying a house. They secured a $98,000 loan, which charges a 6.75% annual interest. If the loan is for 30 years, how much will the monthly payments be?
9. When her son was 4 years old, Marcy invested $5000 of the money she earned in an account paying 8% interest compounded quarterly. Marcy wants to withdraw the money to help with her son’s college expenses when it grows to somewhere between $15,000 and $25,000. How long must the money be left in the bank to grow to this range of amounts?