1. Find the solution to the equation $\ln (x^2 + 3x) - \ln 10 = 0$.

2. Solve for x :$\log_2 (x + 7) + \log_2 x = 3$.

3. What is the solution of : $\left(\frac{1}{7}\right)^x = 7^{x+4}$

4.The equation for the price of a car that was bought for $10,000 and has depreciated 10% yearly is given as y = (10000) * (1 - 0.1)^t, where t = number of years since it was originally bought. Find the price of the car 8 years later.

   a. Answer: _____

   b. What is the rate of decrease? _____

5.The equation for the price of a baseball card that was bought for 5 dollars and has appreciated 5% yearly is given as $y = (5) * (1 + .05)^t$, where t = number of years since it's original purchase. Find the value of the card 25 years later.

      c. Answer: _____

      d. What is the rate of increase? _____

6.A city of 100,000 is having pollution problems and is decreasing in size 1% annually (every year). Find the equation for the population of this city and find the size of the city in 100 years.

Equation: _____   Answer: _____

7.The price of a gallon of milk is given by the equation $P(x) = .5(1.03)^t$, where t = the years since 1939.

      e. What is the price of a gallon of milk in 1939? _____

      f. What was the rate of inflation (growth)? _____

      g. What is the predicted value of a gallon of milk in 2009? _____