

1.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? _____

2.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.

a. Answer: _____

b. What is the rate of increase? _____

3.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: _____

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

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

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

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

5. Compute the amount owed (that's interest plus principal) on a simple interest loan of \$2100 if the interest rate is 11.5% and the money is borrowed for (a) one year (b) 36 months (c) five years