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| **Question** | **Exponential Growth or Decay?** | **Write a function that represents this situation** | **Answer:** |
| http://www.lietaer.com/wp-content/uploads/2010/09/money.jpg1. You buy a house for $130,000. It appreciates 6% per year. How much is it worth in 10 years?  |  | **Initial Amount =**   |  |
| **Growth/Decay Rate:**Percent = Decimal = |
| Function that represents this situation: |
| C:\Users\mj117569\Desktop\ENHY_rgbSherrod_Rainge_MUG.jpg2. Since Coach Rainge left Penn State in 1989 he has been losing hair at a rate of 11% per year. How much hair does he have today if he had 5127 hairs in 1989? |  | **Initial Amount =**   |  |
| **Growth/Decay Rate:**Percent = Decimal = |
| Function that represents this situation: |
| 3. Mr. Terza is broke but will invest $40 in an account at a 3% interest rate. How much money will he have after 14 years? |  | **Initial Amount =**   |  |
| **Growth/Decay Rate:**Percent = Decimal = |
| Function that represents this situation: |
| 4. A population of 100 frogs increases at an annual rate of 22%. How many frogs will there be in 7 years? |  | **Initial Amount =**   |  |
| **Growth/Decay Rate:**Percent = Decimal = |
| Function that represents this situation: |
| http://cdn2.disneybaby.com/images/2012/01/nemo-plush-character-photo-1800x1800-dcp-200837.jpg5. A species of extremely rare, deep water fish are slowly becoming extinct. If there are a total 821 of this type of fish and there are 15% fewer fish each ***month***, how many will there be in ***half a year***? |  | **Initial Amount =**   |  |
| **Growth/Decay Rate:**Percent = Decimal = |
| Function that represents this situation: |
| 6. The population of Austin is growing at a rate of 5% per year. In 2010, the population was 500,000. What would be the predicted current population? |  |  |  |
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| 7. Use the equation from the previous question and predict in what year Austin’s population will first reach 1,000,000. |  |  |  |
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