**Practice for Exam 2, MTH 122**



1. Determine which of the data are exponential. If exponential what is their growth/decay factor?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 |
| 230 | 242.88 | 256.48128 | 270.844232 | 286.011509 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 |
| 230 | 243.82 | 258.25 | 267.392 | 289.347 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 |
| 490 | 426.3 | 370.881 | 322.66647 | 280.719829 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 |
| 490 | 428.91 | 379.61 | 337.241 | 298.4201 |

1. The 2006 population of Venezuela was 27.0 million people and growing exponentially at an annual rate 1.7%.
2. Find an expression for the population at any time t.
3. Assuming this trend continues what will be the population in 2010?
4. Assuming that this was the trend back in time to 2001, what was the population in 2003?
5. Estimate the doubling time for the population in 2018.
6. In 1990, the US imported $759 billion worth of goods. In 2004, the US imported $2,118 billion worth of goods. Assuming that the growth in imports has been following an exponential growth pattern, find an equation of the exponential function that models the US imports when the independent variable t represents the number of years since 1990.







1. Simplify
2. Use logarithms to solve the equation for t.



1. How much stronger is a magnitude 6 earthquake than a magnitude 3 earthquake?

