**Additional Regression HW**

1. The table below gives the approximate number of cell phone subscribers worldwide.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
| **Subscribers in millions** | 93 | 138 | 210 | 320 | 485 | 738 |

1. Circle the exponential regression model below for the number of subscribers in millions, ***S***, as a function of the number of years, ***t***, since 1995.

 

 

1. Evaluate. **Show your work.** **Round to 2 decimals.**
2. Interpret **part b** in the context of the problem.
3. Solve . **Show your work.**
4. Interpret **part d** in the context of the problem.
5. The population of the Houston Metro Area has been growing approximately exponentially. The data in the table below gives the population in thousands for the Houston Metro Area.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | 1990 | 2000 | 2010 | 2020 | 2030 | 2040 |
| **P, population in thousands** | 184 | 236 | 332 | 528 | 737 | 1070 |

1. Circle the exponential regression function below for the population in thousands, ***P***, as a function of the number of years, ***t***, since 1990.

|  |  |
| --- | --- |
|  |  |
|  |  |

1. Determine the rate from the function you chose in **part a** and interpret this value in the context of the problem.
2. Evaluate and interpret the result in the context of the problem. **Round to 3 decimals.**
3. Write the equation of the asymptote for the function you chose in **part a**.
4. A certain flowerbed on the south end of Fort Lewis was planted with all new flowers in 1990. No new flowers have been planted in this flowerbed since then. The table below gives the number of flowers in that flowerbed over time.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 1990 | 1992 | 1995 | 1999 | 2004 |
| # of flowers | 440 | 412 | 385 | 330 | 299 |

1. Circle the **linear regression** function that best represents the data. The time in years since 1990, ***t***, is a function of the number of flowers in the flowerbed, ***F***.

 

 

1. Evaluate and interpret . **Show your work.**
2. Solve and interpret . **Show your work.**