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| **Modeling Real Life Data Homework Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block\_\_\_\_\_\_** |
| |  |  | | --- | --- | | **Time (mins)** | **Temp**  **( º F)** | | 0 | 179.5 | | 5 | 168.7 | | 8 | 158.1 | | 11 | 149.2 | | 15 | 141.7 | | 18 | 134.6 | | 22 | 125.4 | | 25 | 123.5 | | 30 | 116.3 | | 34 | 113.2 | | 38 | 109.1 | | 42 | 105.7 | | 45 | 102.2 | | 50 | 100.5 |  1. The data at the right shows the cooling temperatures of a freshly brewed cup of coffee after it is poured from the brewing pot into a serving cup.  The brewing pot temperature is approximately 180º F.    1. Determine the regression model to represent this data.    2. Is this data a good fit to represent this data? Why?    3. Based upon the new equation, what was the initial temperature of the coffee?    4. When is the coffee at a temperature of 106 degrees?    5. What is the predicted temperature of the coffee after 1 hour?   **2-8: Graph a scatter plot for each set of data and state the model which appears to be the best-fitting model. Find the regression equation for the model as well as the correlation coefficient.**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | 12 | 16 | 20 | 24 | 28 | | y | 0.8 | 3.6 | 16.2 | 72.9 | 328.05 |   **2.**    **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | 2 | 7 | 12 | 17 | 22 | | y | -100 | -55 | 40 | 185 | 380 |   **3.**  **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | 2.2 | 2.6 | 3.0 | 3.4 | 3.8 | | y | 0.68 | 4.52 | 9.0 | 14.12 | 19.88 |   **4.**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | 0.3 | 0.7 | 1.1 | 1.5 | 1.9 | | y | 2.5 | 3 | 3.6 | 4.32 | 5.184 |   **5.**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | 0.06 | 0.375 | 0.96 | 1.815 | 2.94 | | y | 0.2 | 0.5 | 0.8 | 1.1 | 1.4 |   **6.**  **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | -6 | 1 | 8 | 15 | 22 | | y | 15 | 1 | 30.12 | 102.36 | 217.72 |   **7.**  **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **R =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **R2 =** \_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | x | 0.32 | 2.07 | 4.8 | 8.51 | 13.2 | | y | 0.9 | 1.6 | 2.3 | 3.0 | 3.7 |   **8.**  **Best model/function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Regression equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
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