**Introduction of Unit 2 Homework: Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**“What’s The Function?” Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block\_\_\_\_\_**

**Part I: Look at the scatter plot of each real world scenario given.**

**Step 1:** Press STAT, 1(Edit), and then enter the coordinates in the table as L1 & L2 .

**Step 2:** Press 2nd, Y=, 1(Plot 1). Turn on the Stat Plot and pick the first type (a scatter plot).

**Step 3:** Make sure the X list says L1 and the Y list says L2.

**Step 4:** Press ZOOM 9: Zoom Stat to see the scatter plot.

**Part II:** **Identify the “shape” of each graphical representation in each problem.**

**Step 1:** Look at the scatter plot you graphed for each problem.

**Step 2:** Use the Function Families worksheet to find the function your graph most likely

represents. *Keep in mind that your scatter plots might be shifted, reflected, or dilated from these*

*basic shapes and you might even only see a portion of the graph in some cases. ☺*

1. This data shows how charges from the electric company depend on the number of kilowatt-

hours of electricity used per month.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| kWh | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
| Charge | 24.36 | 40.23 | 56.09 | 71.95 | 87.82 | 103.68 | 119.55 | 135.41 | 151.28 | 167.14 |

**2.** Below is the numeric representation of the temperature T at time t in Columbus, Ohio during

an “Alberta Clipper” cold front. (Time (t) zero is midnight.)

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| T | 2 | 0 | -2 | -4 | -6 | -8 | -6 | -4 | -2 | 0 | 2 |

**3.** Below is the data relationship between time and public education expenditures (in billions) in

the United States.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Time | 1940 | 1950 | 1960 | 1970 | 1980 | 1990 |
| Expenses | 3.3 | 8.9 | 23.9 | 68.5 | 165.6 | 377.5 |

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4.** This data shows the relationship between the selling price(s) of a graphing calculator and the

daily profit earned (P) from the sale of all calculators sold that day at that selling price.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| s | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 |
| P | 15890 | 17540 | 18690 | 19340 | 19490 | 19140 | 18290 | 16940 | 15090 |

**5.** Below is data showing the concentration of a particular drug in the body over time.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| c | 0.82 | 0.88 | 0.93 | 0.97 | 1.0 | 1.0 | 0.96 | 0.89 | 0.77 | 0.60 | 0.37 |

1. Below is data showing the possible wages of a server as provided by the Local Restaurant Association. He is paid a salary plus he earns an average of $3.50 in tips per table served.

The (t) is the number of tables and (w) is the total tips earned.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| w | 75.00 | 92.50 | 110.00 | 127.50 | 145.00 | 162.50 | 180.00 | 197.50 | 215.00 | 232.50 |

1. This data shows the number of people enrolled in Medicare for the last few years (numbers rounded to the nearest 100).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t | 1975 | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
| b | 23,800 | 27,500 | 30,100 | 33,100 | 33,800 | 34,400 | 35,100 |

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Below is data showing the price a parking garage charges for the amount of time a car is parked in the garage.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t | .5 | .75 | 1 | 1.5 | 2 | 2.5 | 3 | 3.75 | 4 | 4.8 | 7.5 | 8 | 8.2 | 10 |
| c | 2.00 | 2.00 | 4.00 | 4.00 | 5.00 | 5.00 | 6.00 | 6.00 | 7.00 | 7.00 | 10.00 | 10.00 | 10.00 | 10.00 |

1. Below is data showing how the number of yearbooks printed affects the price per copy at which they are sold.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| y | 1 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| p | 500 | 215 | 115 | 81.67 | 65 | 55 | 48.34 | 43.57 | 40 | 37.22 | 35 |

1. The average monthly temperature in Savannah is given in the table below.

**Function it mostly resembles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Month  (Day) | Jan.  1 | Feb.  2 | Mar.  3 | Apr.  4 | May  5 | June  6 | July  7 | Aug.  8 | Sept.  9 | Oct.  10 | Nov.  11 | Dec.  12 |
| Temperature  (Fahrenheit) | 48.9 | 51.8 | 59.2 | 66 | 73.5 | 79.1 | 81.8 | 81 | 76.6 | 67.3 | 59.1 | 51.7 |

