**More Histograms**

The table below shows the number of calories in various sandwiches sold at McDonalds Restaurants.

1. Find the measures of center, the minimum, the maximum, and the range of the calories.
2. Choose a bin width and make a frequency table for the calories. Make sure that every data value is contained in a bin.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **McDonalds Sandwiches** | **Calories** |  | Mean |  |
| Big Mac | 540 |  | Median |  |
| Quarter Pounder with Cheese | 620 |  | Mode |  |
| Double Quarter Pounder with Cheese | 760 |  | Minimum |  |
| Hamburger | 250 |  | Maximum |  |
| Cheeseburger | 300 |  | Range |  |
| Double Cheeseburger | 440 |  |  |  |
| Filet-O-Fish | 380 |  | **Bin** | **Frequency** |
| Big N' Tasty® with Cheese | 510 |  |  |  |
| Crispy Chicken Classic Sandwich | 510 |  |  |  |
| Grilled Chicken Classic Sandwich | 350 |  |  |  |
| McChicken | 360 |  |  |  |
| Honey Mustard Snack Wrap®  (Crispy) | 330 |  |  |  |
| Honey Mustard Snack Wrap®  (Grilled) | 250 |  |  |  |
| Ranch Snack Wrap® (Crispy) | 350 |  |  |  |
| McRib ®† | 500 |  |

(Source: http://www.mcdonalds.com/us/en/food/food\_quality/nutrition\_choices.html)

1. Create a histogram using the frequency table you created in (2). Label and scale your axes.



1. The average gas prices in April 2012 for a gallon of regular gasoline for each state and Washington, D.C. is shown below. Enter the prices into a list on your calculator.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **State** | **Price ($)** |  | **State** | **Price ($)** |  | **State** | **Price ($)** |
| Alaska | 4.360 |  | Kentucky | 3.918 |  | New York | 4.149 |
| Alabama | 3.790 |  | Louisiana | 3.801 |  | Ohio | 3.789 |
| Arkansas | 3.764 |  | Massachusetts | 3.910 |  | Oklahoma | 3.676 |
| Arizona | 3.866 |  | Maryland | 3.964 |  | Oregon | 4.077 |
| California | 4.221 |  | Maine | 3.996 |  | Pennsylvania | 3.967 |
| Colorado | 3.886 |  | Michigan | 3.931 |  | Rohde Island | 3.980 |
| Connecticut | 4.167 |  | Minnesota | 3.724 |  | South Carolina | 3.720 |
| District of Columbia | 4.175 |  | Missouri | 3.672 |  | South Dakota | 3.821 |
| Delaware | 3.894 |  | Mississippi | 3.778 |  | Tennessee | 3.771 |
| Florida | 3.938 |  | Montana | 3.774 |  | Texas | 3.813 |
| Georgia | 3.827 |  | North Carolina | 3.890 |  | Utah | 3.713 |
| Hawaii | 4.605 |  | North Dakota | 3.839 |  | Virginia | 3.894 |
| Iowa | 3.754 |  | Nebraska | 3.844 |  | Vermont | 3.988 |
| Idaho | 3.773 |  | New Hampshire | 3.869 |  | Washington | 4.127 |
| Illinois | 4.064 |  | New Jersey | 3.796 |  | Wisconsin | 3.843 |
| Indiana | 3.948 |  | New Mexico | 3.788 |  | West Virginia | 3.941 |
| Kansas | 3.714 |  | Nevada | 3.963 |  | Wyoming | 3.626 |

(Source: <http://fuelgaugereport.aaa.com/?redirectto=http://fuelgaugereport.opisnet.com/index.asp>)

1. Use the 1-Var Stats command to find the mean, the median, the minimum, the maximum, and the range of the average gas prices.
2. Fill in the table below.

|  |  |
| --- | --- |
| Mean |  |
| Median |  |
| Minimum |  |
| Maximum |  |
| Range |  |

1. Based on the range that you calculated in (a), choose a bin width for your histogram. Explain how you arrived at your choice.
2. Use the calculator to make a histogram. Sketch the histogram below.



1. In the graph window, press TRACE. Scroll across the bars to find the boundaries of each bin and the frequencies. Record this information in the table.

|  |  |
| --- | --- |
| **Bin** | **Frequency** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Describe the shape of the histogram for the calories in McDonalds’ sandwiches. Is it mound shaped or is it skewed? Explain.
2. Describe the shape of the histogram for average gasoline prices. Is it mound shaped or is it skewed? Explain.
3. On your sketch of the average gas process histogram, place an X on the bar that includes Connecticut.
4. How would you describe Connecticut gasoline prices in comparison with the rest of the United States?