**Problem #1: Analyzing Data (Pie Charts and Bar Graphs):**

Two bags of M&M’s are purchased: one plain and one peanut. Record the color of M&M’s in each bag in the table below:

|  |  |  |
| --- | --- | --- |
| **Color** | **Plain** | **Peanut** |
| Orange |  |  |
| Blue |  |  |
| Green |  |  |
| Yellow |  |  |
| Brown |  |  |
| Red |  |  |

1. Based on the data in the table, do you think the color distribution

 is the same in a bag of plain M&M’s and peanut M&M’s

|  |  |  |
| --- | --- | --- |
| **Color** | **Plain %** | **Peanut %** |
| Orange |  |  |
| Blue |  |  |
| Green |  |  |
| Yellow |  |  |
| Brown |  |  |
| Red |  |  |

2. In the table to the right, find the percent of each color

 for plain and peanut M&M’s.

3. Create a pie graph based on the percentages for plain and peanut M&M’s.

 **PLAIN PEANUT**

4. Create a side-by-sdie bar graph with color as the categories for both plain and peanut M&M’s.

 You do not need to create 2 graphs here, just use one graph and draw 2 bars….one for plain,

 one for peanut.

5. After looking at the pie charts and bar graphs, do you think the color distribution is the same in a

 bag of plain M&M’s and peanut M&M’s

**Problem #2 (Statistical Problem Solving Process):**

**Question:** Do men and women differ in their opinions about the likelihood they will become rich?

**Data Collection:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Opinion** | **Female** | **Male** | **Total** |
| Almost no chance | 96 | 98 | **194** |
| Some chance, but probably not | 426 | 286 | **712** |
| A 50-50 chance | 696 | 720 | **1416** |
| A good chance | 663 | 758 | **1421** |
| Almost certain | 486 | 597 | **1083** |
| **Total** | **2367** | **2459** | **4826** |

**Analyze Data:**

1. Find the percentages for each opinion category for male and female.

|  |  |  |
| --- | --- | --- |
| **Opinion** | **Female %** | **Male %** |
| Almost no chance |  |  |
| Some chance, but probably not |  |  |
| A 50-50 chance |  |  |
| A good chance |  |  |
| Almost certain |  |  |

1. Create a side-by-side bar graph (just like the M&M example) to compare females/males

 Almost Some 50-50 Good Almost

 None chance chance certain

**Conclusion:** Based on the data, what can you conclude about the opinions of men and women about their chances to become rich one day?

**Problem #3 (Statistical Problem Solving Process):**

**Question:** Do Americans prefer Name Brand or Store Brand Products?

**Data Collection:**

 Table A – Name brand vs. Store Brand Table B – Store brand products sorted by

 generation/gender/income





Analyze the data:

Use Table A and create (3) Pie Charts: Paper Products, Cereal, and Carbonated Soft Drinks

Using the product - “Carbonated Soft Drinks” create (3) bar graphs from Table B. One chart for Generation, one for Gender, and one for income.

Conclusion:

Based on the information above, what conclusions can you draw about the question, “Do Americans prefer name brands or store brands?”