# **Getting Ready for the Midterm – Chapter 2**

## **Practice Problems - Answer Key**

#### Frequency Distribution to Relative Frequency Distribution or Histogram

1) The following frequency distribution shows the number of rounds played by 200 professional golfers. Construct a histogram and a relative frequency distribution.

| Number of Rounds | Frequency | <b>Relative Frequency</b> |           |      |     |     |
|------------------|-----------|---------------------------|-----------|------|-----|-----|
| 45 to 55         | 3         | 0.015                     | Frequency |      |     |     |
| 55 to 65         | 9         | 0.045                     | 50        |      |     |     |
| 65 to 75         | 21        | 0.105                     | 40        |      |     |     |
| 75 to 85         | 47        | 0.235                     | 30-       |      |     |     |
| 85 to 95         | 64        | 0.32                      | 20        | _    |     |     |
| 95 to 105        | 34        | 0.17                      | 10        |      |     |     |
| 105 to 115       | 16        | 0.08                      | o         | 80   | 100 | 120 |
| 115 to 125       | 6         | 0.03                      |           | Vari |     |     |

*Note:* You cannot create the histogram directly in StatCrunch. Start with a bar graph, then by hand be sure to draw it with the bars touching and the x-axis labeled numerically.

#### **Histogram to Frequency Distribution**

2) Use the given histogram of student scores to create a frequency distribution.



| Score     | Frequency |  |  |  |  |  |
|-----------|-----------|--|--|--|--|--|
| 50 to 60  | 2         |  |  |  |  |  |
| 60 to 70  | 10        |  |  |  |  |  |
| 70 to 80  | 17        |  |  |  |  |  |
| 80 to 90  | 27        |  |  |  |  |  |
| 90 to 100 | 21        |  |  |  |  |  |

#### **Bar Graph**

3) A survey of 150 fourth- and fifth-graders about their favorite breakfast food produced the following results: Cereal (63), Eggs (33), Pancakes (21), Toast (12), Doughnuts (9), Toaster Pastries (12), Other (3). Construct a bar graph for the data.



#### **Pie Chart**

4) A poll of 500 potential Democratic primary voters in New Hampshire revealed that 227 preferred candidate A, 212 preferred candidate B, and 61 were undecided. Construct a pie chart showing the percentages for each candidate, as well as undecided.



### **Frequency Distribution and Histogram**

5) Here are the ages of the Presidents of the United States at inauguration (from George Washington through Donald Trump). Construct a frequency distribution and a histogram for these ages.

Let the first class begin at 40, and use a class width (or binwidth) of 5.

| 57 | 61 | 57 | 57 | 58 | 57 | 61 | 54 | 68 | 51 | 49 | 64 | 50 | 48 | 65 |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 52 | 56 | 46 | 54 | 49 | 51 | 47 | 55 | 55 | 54 | 42 | 51 | 56 | 55 | 51 |
| 54 | 51 | 60 | 62 | 43 | 55 | 56 | 61 | 52 | 69 | 64 | 46 | 54 | 47 | 70 |

| Age      | Frequency |  |  |  |  |  |  |
|----------|-----------|--|--|--|--|--|--|
| 40 to 45 | 2         |  |  |  |  |  |  |
| 45 to 50 | 7         |  |  |  |  |  |  |
| 50 to 55 | 13        |  |  |  |  |  |  |
| 55 to 60 | 12        |  |  |  |  |  |  |
| 60 to 65 | 7         |  |  |  |  |  |  |
| 65 to 70 | 3         |  |  |  |  |  |  |
| 70 to 75 | 1         |  |  |  |  |  |  |

