**Week 8 Homework Sheet Due Next Tuesday (16/09/2014)**

**Total Marks: /40 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **A survey of "How long does it take you to eat breakfast?" had the following results:**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  Minutes: | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| People: | 2 | 3 | 3 | 4 | 2 | 1 | 0 | 0 | 3 | 1 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |

1. Construct a dot plot. Do not forget to caption the plot underneath it. [ 2marks]
2. What might 0 minutes mean? [1 mark]
3. What is the mode in this survey? [1 marks]
4. Which column in a frequency table corresponds to the idea of using dots on a dot plot? [1 mark]
5. Suggest another graphical representation you can use to analyse the data apart from a dot plot and a frequency table. [1 mark]
6. **There are Brand A and Brand B batteries and a survey was done to study the life of the batteries. The results are listed below:**

The life of batteries (hours)

*Brand A: 32, 3, 50, 13, 45, 28, 43, 24, 11, 11, 39, 37, 27, 28, 35, 41*

*Brand B: 14, 57, 45, 20, 20, 29, 39, 41, 53, 12, 36, 32, 41, 38, 41, 54*

1. Construct a back-to-back stem-and-leaf plot for the life time of the two batteries (Remember to include the title, headings and the key and order the numbers). [4 marks]



1. What is the average life of Brand A batteries in this survey? What would the average life of Brand A batteries be if we did not count 3 hours? Compare the results and comment. [4 marks]
2. How many modes do we have for Brand A batteries in this survey and what is the name of this type of mode? [2 marks]
3. Comment the symmetry of the distribution for both Brand A and Brand B batteries. [2 marks]
4. **The stem and leaf plot below shows weekly incomes of several families (rounded to nearest ten dollars).**

Weekly income of different families

|  |  |
| --- | --- |
| Stem  | Leaf  |
| 1 | 7  |
| 2 | 2 5  |
| 3 | 0 1 2 4 |
| 4 | 0 1 1  |
| 5 | 5 6 9 |
| 6 | 2 |

**1|7 is 170 dollars**

1. What does 3ǀ2 mean? [1 marks]
2. What are the lowest and highest weekly incomes? [2 marks]
3. What percentage of families earn more than 390 dollars a week (show your working)? [2 marks]
4. What percentage of families earn less than 1730 dollars a month (assume 1 month is 4.3 weeks and show your working)? [3 marks]
5. What is another way to represent this data graphically? Which representation is better and why? [3 marks]

1. **The following two sets of data show the height (in cm) of some athletes from two teams.**
2. 220, 188, 190, 213, 202, 195, 198
3. 190, 187, 176, 187, 184, 166, 172, 185
4. Find the mean, median, mode, and range of data set A. [4 marks]
5. Find the lower and upper quartiles of data set A. Hence find the interquartile range of data set A. [3 marks]
6. The average height of athletes from data set B is close to \_\_\_\_\_\_. [1 mark]
7. 178 cm b) 179 cm c) 180 cm d) 181 cm
8. The lower quartile of data set B is \_\_\_\_\_\_\_\_\_. [1 mark]
9. 172 b) 174 c) 176 d) 178
10. The interquartile range of data set B is \_\_\_\_\_\_\_. [1 mark]
11. 9 b) 13 c) 17 d) 21
12. Athletes in A are more likely to be\_\_\_\_\_\_\_. [1 mark]
13. football players b) basketball players c) weight lifters d) tennis players