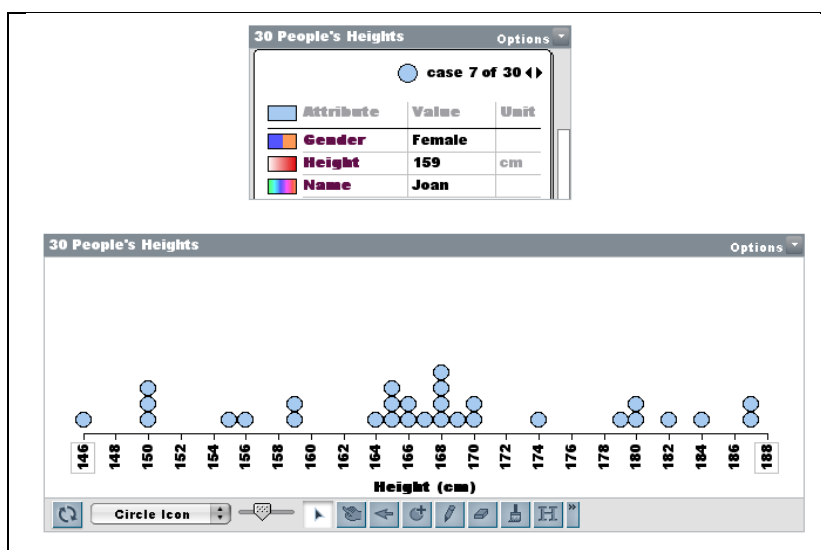


Appendix

Post Activity Assessment Including Example Responses

Name: _____

Class: _____ / 26 marks



From the above TinkerPlots screen capture complete the following.

- Q1. List one Attribute: Either gender, height or name [1 mark]
- Q2. What is the value shown in the Data Card for this Attribute? Female, 159 or Joan respectively [1 mark]
- Q3. What units are used for measuring in this data set? Centimetres or cm [1 mark]
- Q4. What is the title of the graph? 30 people's heights [1 mark]
- Q5. What Attribute is being plotted? Height [1 mark]
- Q6. What is the largest value displayed in the plot? 187cm [1 mark]
- Q7. What is the smallest value displayed in the plot? 146cm [1 mark]
- Q8. What is the range of values in the plot? 146 – 187cm or 41cm [2 marks]
146 – 188 or 42cm or list of all numbers [1 mark]
- Q9. What value occurs most often in the plot? 168cm [1 mark]

Q10. Describe the shape of the plot and what it tells you about the people in the data set.
[4 marks in total]

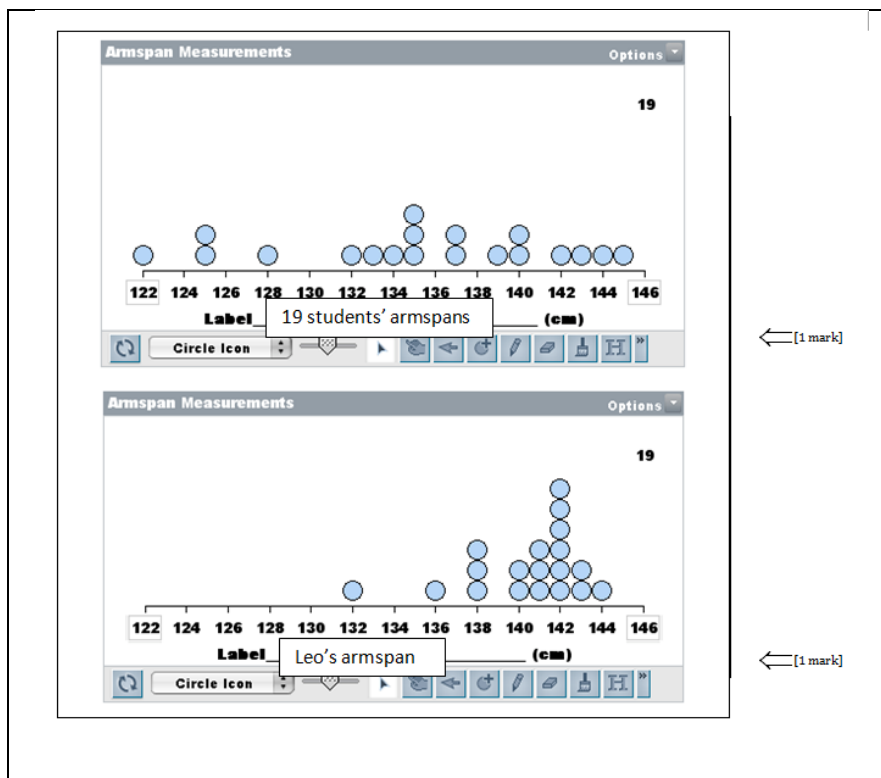
[Here we are looking for two parts each worth 2 marks. Part a) statement about the shape/ spread/ variation and part b) statement about what the graph shows.]

Examples:

- The shape of the plot is pretty flat and spread out [2 marks]
- It goes up and goes down, then back up again and down [2 marks].
- There's a lot of variation in their heights [1 mark]
- It has a clump in the middle around 164 – 174cm but also a few high and low values [2 marks]
- It tells you that most people are between 164 and 170cm high [2 marks]
- It tells you that there are some short and some tall people but most are in the middle [2 marks]
- There may be a mix of older and younger students, or boys and girls, probably older than our class [2 marks]
- Tells you people's name, gender and height [1 mark]

The plots below show data for Armspan measurements. One shows 19 measurements for the one student, Leo, and the other shows one measurement for 19 students in the class.

Q11. Fill in the labels for the two plots on the axis: either “Leo’s Armspan” or “19 Students’ Armspans”.



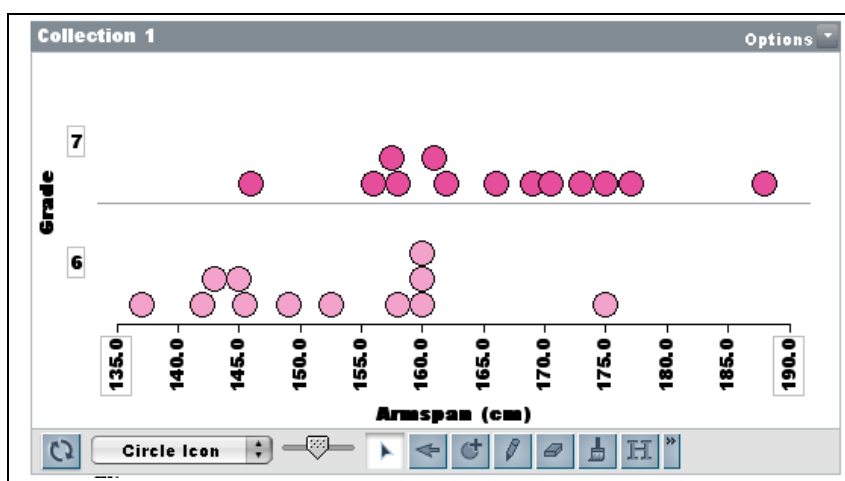
Q12. Explain how you know which plot is which.

[4 marks in total]

[Here we are looking for two reasons each worth 2 marks. One answer needs to highlight greater range in whole class data due to variety of heights. The other answer needs to state that Leo's values would be closer together as just measuring one person (with or without mention of error).] Examples:

- The first plot is really spread out as the students all have different armspans. They range from 122cm to 145cm.
- There is a greater variation/spread in the class data because some students are tall and some are shorter.
- Leo's values are closer together because we would expect everyone's measurement to be fairly close to Leo's actual height.
- The second plot is more bunched up because they were all measuring the same person. The range is only 132cm – 144cm and the 132cm is probably an outlier. Most people measured Leo's armspan between 140cm and 144cm. Six students measured him as 142cm.
- The range is 12cm for Leo's data and 23cm for the class data [2 marks only as just reading 2 data details off plot]
- Only 3 students have the same armspan (135cm). [1 mark only as just reading data off plot]

The plot below shows data for Armspan measurements for **both** a Grade 6 class **and** a Grade 7 class.



Q13. Do you think there is an overall difference in the Armspans of these Grade 6 and Grade 7 students? Circle your answer Yes No Not sure

[no marks for this Q]

Q14. Give 2 reasons for your conclusion. Examples – note reasons could be a combination of all 3 possibilities. Yes answers are awarded 2 marks each, other answers 1 mark each [4 marks in total]

Yes answers: [2 marks each]

- The range of armspans for the Gr 7 students is from 145cm – about 188cm but the range of armspans for the Grade 6 students is from about 136 – 175cm.
- There are more Grade 6 students with shorter armspans than Grade 7 students.

- More Grade 7 students have a longer armspan than the Grade 6 students.
- Most of the Grade 6 values are 160 or less but most of the Grade 7 values are 160 or more
- Five values in Grade 6 are less than or equal to the lowest value in Grade 7 and three values in Grade 7 are larger than or equal to the largest value in Grade 6
- The largest value is in Grade 7 and the smallest one is in Grade 6 [1 mark only as just reading data from plot]

No answers: [1 mark only for each]

- It's just that the Grade 7 students are 1 year older, the shape looks similar and in 1 more year the Grade 6 plot will look like the Grade 7 one does.
- Grade 7s are taller (generalizations)
- The spread of measurements for Grade 7 is 43cm and the spread for Grade 6 is 39cm so pretty similar
- They both have one tall person and one short person (outliers).

Not sure answers: [1 mark only for each]

- Because there is a lot of overlap in the data
- The ranges overlap

Q15. What does VARIATION mean? Examples:

[2 marks]

- The difference between something, like the difference between the smallest and the largest measurement.
- The spread of the data
- How things/measurements change
- Mention of word vary, variation, variety [1 mark only]