

Statistics test. Non-calculator section.

1. State whether these variables are discrete or continuous (0.25 0 0 each)

- a) The length of people's right thumb nail.
- b) The time people spend inside their kitchen per day.
- c) The times dogs bark per day.
- d) The ratio between the time birds spend flying and not flying each day.

2. Ann needs to buy an apple for a science project. Due to the restrictions of the experiment she needs an apple that weighs exactly 200g, so she tries to look for varieties of apple that weigh approximately that much.

She actually finds a shop where the average weight of all the apples is 200g, so she picks one for her science project. Unfortunately, when weighing it she learns that it is not exactly 200g but 205.

- a) Does this mean that the average was wrong? (explain your answer) (1 0 0)

b) Is it possible that the average is 200 and not one single apple weighs 200g? If it is, explain how. (0 1 0)

3. If in a distribution the median and the average are very different, what does that mean? (0 1 0)

4. Which of these frequency tables is more disperse? (explain briefly why) (1 0 0)

value	frequency		value	frequency
5	8		5	2
6	11		6	3
7	14		7	3
8	16		8	8
9	19		9	18
10	13		10	30
11	10		11	10
12	8		12	2

5. When we have a data series we can calculate the average, but when we have a frequency table that is divided into classes we can only “estimate” the average. Why is that only an estimation? (0 1 0)

6. Draw a cumulative frequency curve that (0 1 0 each)

a) Is skewed to the right

b) Is nearly uniform

c) is very concentrated

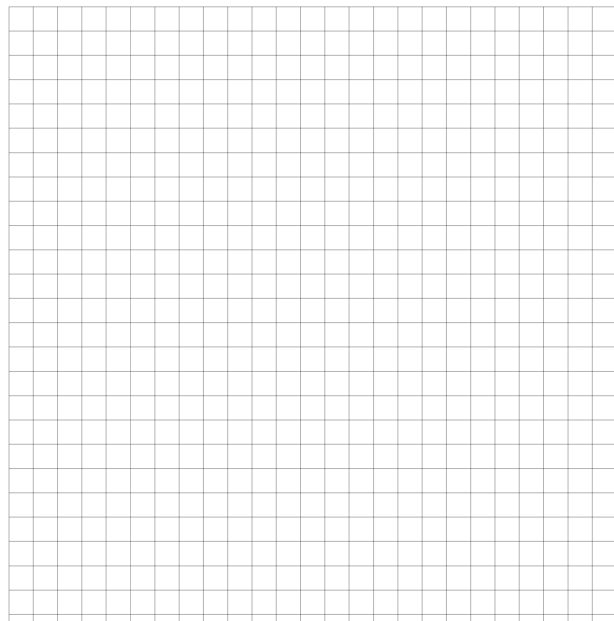
7. Build frequency tables with these data.

a) 16 18 14 19 22 13 19 23 18 21 23 20 21 23 16 19 20 24 21 23 20 15 21 20 22 19 (1 0 0)

b) 134 122 167 139 159 194 108 103 162 138 175 179 104 190 153 126 144 107 158 152 188 114
 133 124 109 167 169 176 148
 (you decide the number of classes)(0 0 1)

8. Draw a histogram with these data (1 0 0)

Value	frequency
4	2
5	8
6	12
7	19
8	30
9	16
10	13
11	9
12	8
13	6



9. The population in town A has an average weight of 68 and the population in town B has an average weight of 77. However Dr. LaPierre has found that it's much easier to find someone with a weight higher than 90 in town A than it is in town B. Explain, using statistical terms, how this can be possible.

Statistics test. Calculator section.

9. Here are the ages of the people who bought train tickets last hour in the Central Station:

25 36 28 34 42 43 26 38 37 64 30 24 23 37 58 34 50 62 23

Calculate:

a) The average age (1 0 0)

b) The variance (0 0.5 0)

c) The standard deviation (0 0.5 0)

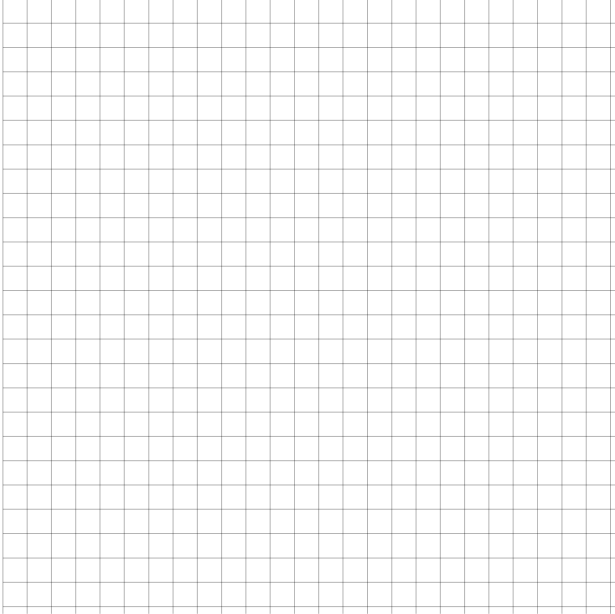
10. Given this set of data: (not frequencies, just raw data)

78	71
73	67
69	71
63	75
71	82
76	74
73	73
78	74
70	73
68	75
61	72
74	75
70	64
68	75

a) classify it into six classes and build a frequency table (0 1 0)

b) Build a cumulative frequency table (1 0 0)

c) Draw the cumulative frequency curve. (0 1 0)



11. Given this set of data:

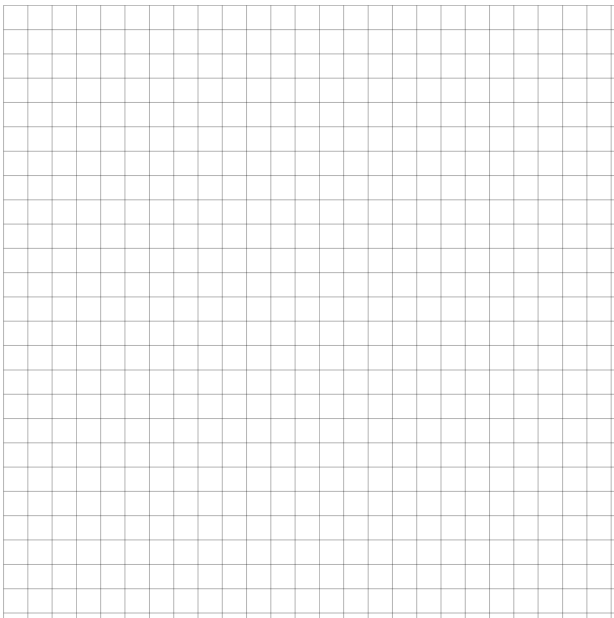
Class	frequency
0-10	9
10-20	40
20-30	120
30-40	188
40-50	122
50-60	85
60-70	57
70-80	38
80-90	26
90-100	20

a) Estimate mean (0 1 0)

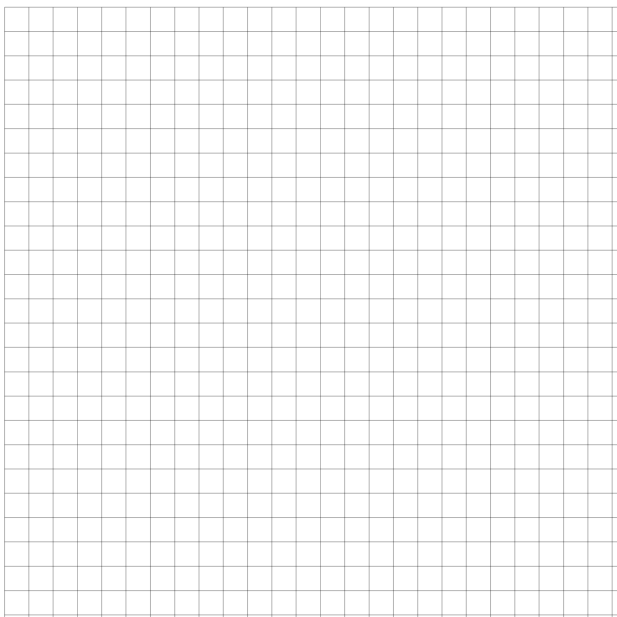
b) State the modal class (1 0 0)

c) Calculate the dispersion in whichever way you want and explain what it means (0 1 1)

d) Draw a histogram (0 1 0)



e) Draw a cumulative frequency curve (0 1 0)



f) Draw a box and whiskers diagram (0 1 0)

