Analyzing numerical data name:

1. Handspans and foot lengths are measured in millimeters and were collected from the same people. These data in their current order are not paired (each set of numbers was sorted separately)

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| Handspan   |  |  | | --- | --- | | 179 |  | | 180 |  | | 180 |  | | 180 |  | | 182 |  | | 190 |  | | 195 |  | | 200 |  | | 200 |  | | 205 |  | | 205 |  | | 206 |  | | 210 |  | | 210 |  | | 210 |  | | 215 |  | | 215 |  | | 220 |  | | 226 |  | | 240 |  | | 266 |  | | Foot length   |  |  | | --- | --- | | 215 |  | | 240 |  | | 250 |  | | 250 |  | | 252 |  | | 257 |  | | 265 |  | | 265 |  | | 270 |  | | 270 |  | | 272 |  | | 275 |  | | 290 |  | | 300 |  | | 300 |  | | 310 |  | | 315 |  | | 315 |  | | 320 |  | | 330 |  | | 355 |  | |

a. For the data handspan and the data foot length (separately), find the minimum, maximum, median, upper and lower quartiles and the interquartile range.

b. Make a boxplot of the two data sets on the same axis.

c. For the data handspan and the data foot length (separately), find the mean and mean absolute deviation.

d. Choose an appropriate interval (so that each histogram will have between 5 and 12 bars) and graph each data set (handspan and foot length) separately with a histogram. Use the same axes for both histograms.

e. Are the data sets approximately symmetric or are they notably asymmetric? Which measurement of spread is recommended for this distribution?

f. Write a short paragraph comparing the two data sets from the information in these graphs.

2. Bird data is measured in millimeters. It measures the lengths of the eggs of cuckoos eggs laid in the nests of the named species of birds.

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| |  |  | | --- | --- | | Robin |  | | 21.05 |  | | 21.85 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.25 |  | | 22.45 |  | | 22.45 |  | | 22.65 |  | | 23.05 |  | | 23.05 |  | | 23.05 |  | | 23.05 |  | | 23.05 |  | | 23.25 |  | | 23.85 |  | | |  |  | | --- | --- | | Wren |  | | 19.85 |  | | 20.05 |  | | 20.25 |  | | 20.85 |  | | 20.85 |  | | 20.85 |  | | 21.05 |  | | 21.05 |  | | 21.05 |  | | 21.25 |  | | 21.45 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.25 |  | | Meadow pipit   |  |  | | --- | --- | |  |  | | 19.65 |  | | 20.05 |  | | 20.65 |  | | 20.85 |  | | 21.65 |  | | 21.65 |  | | 21.65 |  | | 21.85 |  | | 21.85 |  | | 21.85 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | | 22.05 |  | |

a. For the data on eggs in each of the birds nests (separately), find the minimum, maximum, median, upper and lower quartiles and the interquartile range.

b. Make a boxplot of the three data sets on the same axis.

c. For the data on eggs in each of the birds nests (separately), find the mean and mean absolute deviation.

d. Choose an appropriate interval (so that each histogram will have between 5 and 12 bars) and graph each data set (data on eggs in each of the birds nests) separately with a histogram. Use the same axes for all histograms.

e. Are the data sets approximately symmetric or are they notably asymmetric? Which measurement of spread is recommended for this distribution?

f. Write a short paragraph comparing the three data sets from the information in these graphs.