

DO NOW

Use the given data to find:

43, 45, 53, 61, 70, 76, 80, 81

1. maximum = $\boxed{81}$
2. minimum = $\boxed{43}$
3. range = $81 - 43 = \boxed{38}$
4. median = $\frac{61+70}{2} = \frac{131}{2} = \boxed{65.5}$

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10.3 Quartiles and Box-and-Whisker Plots

Five-Number Summary:

minimum - lowest value

maximum - highest value

median - middle item (50%)

↳ middle quartile

lower quartile - median of lower half (25%)

↳ Q_1

upper quartile - median of upper half (75%)

↳ Q_3

range - maximum - minimum

interquartile range - upper quartile - lower quartile (IQR)

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1. Find the five-number summary for the following data values:
42, 15, 25, 30, 42, 75, 80, 85, 65, 25, 19, 72, 77, 25

min = 15
 $Q_1 = 25$
 median = 42
 $Q_3 = 75$
 max = 85

TO ENTER DATA

$\boxed{\text{doc}}$

$\boxed{1}$ New Document
(No to Save)

$\boxed{4}$ Add Lists & Spreadsheet

* Go to Box a: Title

* Enter Data

TO GET SUMMARY

$\boxed{\text{MENU}}$

$\boxed{4}$ Statistics

$\boxed{1}$ Stat Calculations

$\boxed{1}$ One-Variable Stats

$\boxed{\text{OK}}$

X1 LIST: Pick Title

$\boxed{\text{OK}}$

2. Find the interquartile range.

75-25

$\boxed{50}$

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3. Find the five-number summary for the following data values:
21, 17, 24, 18, 19, 21, 30, 25, 19, 21

min = 17
 $Q_1 = 19$
 median = 21
 $Q_3 = 24$
 max = 30

4. Find the interquartile range.

24-19

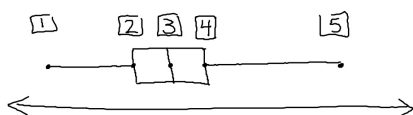
$\boxed{5}$

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Box and Whisker Plot (or Box Plot)

* Use 5 Number Summary

1. Minimum
2. lower quartile (25%)
3. Median (50%)
4. Upper quartile (75%)
5. Maximum (100%)

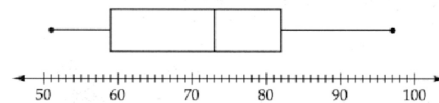


* Number line below the plot
 ↳ numbered consistently

* Outliers → fall outside of $1.5(\text{IQR}) \pm \text{Quartile}$
 ↳ do not connect to the whisker

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5.



a. maximum = 97

d. median = 73

b. minimum = 51

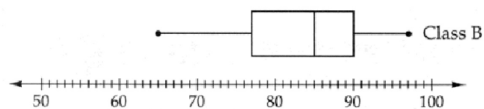
e. lower quartile = 59

c. range = 46

f. upper quartile = 82

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6.



- | | |
|-----------------|------------------------|
| a. maximum = 97 | d. median = 85 |
| b. minimum = 65 | e. lower quartile = 77 |
| c. range = 32 | f. upper quartile = 90 |

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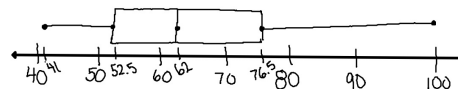
7. Use the data to identify the following:

63, 41, 72, 59, 56, 44, 49, 61, 91, 100, 77, 76

- Find the five-number summary.
- Create a box and whisker plot for the data.

a. min = 41
 $Q_1 = 52.5$
 med = 62
 $Q_3 = 76.5$
 max = 100

$IQR = 24$
 $1.5(IQR) = 36$



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HOMEWORK

Worksheet - HW 10.3

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