

Statistics Post-Test

Juniors

Summary Investigation

Year: (circle) 9 10

Name: _____

Tutor Group: _____

Teacher: _____

Problem

I wonder much time junior students tend to spend doing sports each day?

Plan

I will ask 30 junior students at Aorere College:

"How many minutes did you play sports yesterday?"

Data – Below is a data table with one group of friends (only a partial set of the whole data).

| Samples | Number of minutes playing sports each day |
|---------|---|
| 1 | 58 |
| 2 | 63 |
| 3 | 23 |
| 4 | 34 |
| 5 | 12 |
| 6 | 27 |
| 7 | 75 |
| 8 | 48 |
| 9 | 19 |
| 10 | 22 |

Analysis

For the group of friends, calculate the measures of center: mean, median and mode.

| | |
|---------------|--|
| Mean | |
| Median | |
| Mode | |

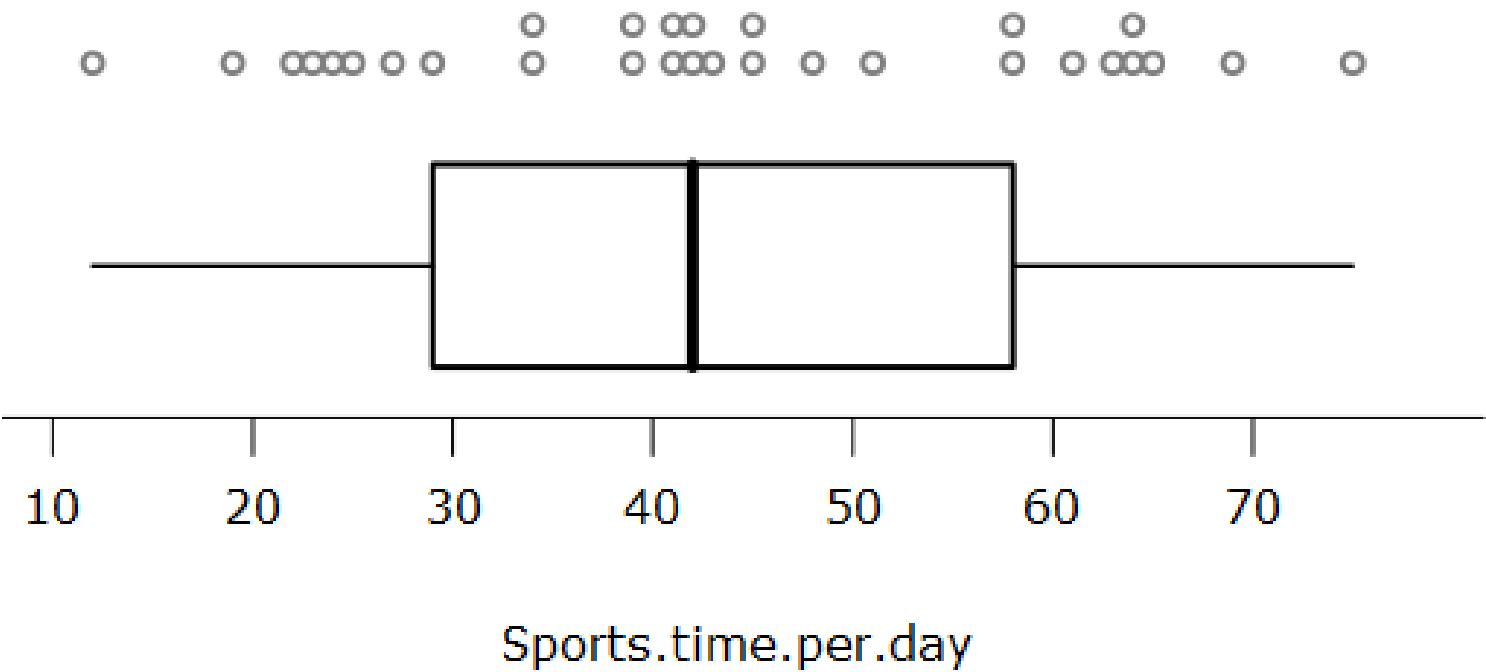
For the group of friends, calculate the measures of spread: range and inter-quartile range.

| | |
|-----------------------|--|
| Range | |
| Lower Quartile | |
| Upper Quartile | |
| IQR | |

Analysis

The dot plot for all 30 students is shown below.

The box and whisker plot is also shown.



Statistics for all 30 students:

| | |
|---------|------|
| Minimum | 12 |
| LQ | 29 |
| Median | 42 |
| Mean | 43.4 |
| UQ | 58 |
| Maximum | 75 |

Analysis

Describe and justify the features of the data. Features may include the center, spread, shape and middle 50%.

[illegible]

Conclusion

Answer the investigation question.

Make an inference.

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Summary Assessment for: _____

| | | | | |
|--|---------|------------|--|--|
| | Level 2 | Analysis | | Calculate two statistics |
| | | Conclusion | | Answer the question. |
| | Level 3 | Analysis | | Describe one feature of the data |
| | | Conclusion | | Answer question in context |
| | Level 4 | Analysis | | Calculate one measure of center and one of spread |
| | | | | Describe two features using statistical terms |
| | Level 5 | Analysis | | Describe three features using statistical terms in context |
| | | | | Calculate IQR |
| | Level 6 | Analysis | | Describe and justify four features in context, using statistical terms |
| | | Conclusion | | Informal inference |
| | | | | Statistical insight |

Comments:

Marking schedule

| Level 2 | | Level 3 | | Level 4 | Level 5 | Level 6 | |
|--|---|---|---|---|--|--|--|
| Analysis | | Analysis | | Analysis | Analysis | Analysis | Conclusion |
| Calculate two statistics | | Describe one feature of the data | | Calculate one measure of center and one of spread | Describe three features using statistical terms in context | Describe and justify four features in context, using statistical terms | Informal inference |
| Answer the question. | | Answer question in context | | Describe two features using statistical terms | | | |
| Any of: mean, median, mode, range, IQR | Junior students spend about 42 minutes doing sports | Shape – mound, hill shaped, approx.. Normal. Center – median is 42 minutes. Spread – range is 63 minutes. Middle 50% is between 29 and 58 minutes | Junior students spend about 42 minutes doing sports each day. | The median amount of time doing sports is 42 minutes. | The median amount of time a junior student spends doing sports each day is 42 minutes. | The mean and median are both good measures of center as the distribution is approximately normally distributed. | The median number of minutes that junior students at Aorere college spend doing sports each day is 42 minutes. |
| | | | | | | Sample taken from Aorere College. Increasing sample size increases accuracy and reliability and decreases spread. If I took another sample, I would get different data but should get similar results. | |