

10.9 Statistics and Data Analysis

Chapter 10: Final Cumulative Review

Name: _____

Date: _____

Class/Period: _____

10.331 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Is "How many minutes did each Grade 6 student read last night?" statistical? Identify variable and variation.

10.333 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Build a frequency table for 2,3,3,4,4,4,5,6 and check total.

10.332 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Classify eye color, number of siblings, temperature, and jersey number as categorical or numerical.

10.334 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Choose a display for favorite fruit and explain why a line plot is unsuitable.

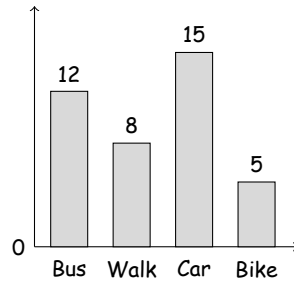
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10.335 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Analyze the bar graph: state two supported conclusions and one unsupported conclusion.



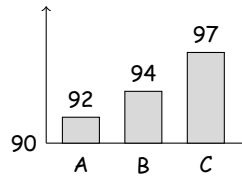
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10.336 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

The truncated graph exaggerates differences. Explain how.



10.337 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Write a statistical question about homework time and a nonstatistical question using the same context.

10.338 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A survey records lunch choice, wait time, and amount spent. Classify each variable.

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10.339 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Find mean of 6,8,9,11,16 and explain equal sharing.

10.342 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Give a data set with no mode and explain.

10.340 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Five values have mean 24; four are 18,21,25,30. Find missing.

10.343 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

House prices 180,195,205,220,1200 thousand: choose mean or median for typical.

10.341 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Find median and mode of 4,7,7,8,10,12,12,12.

10.344 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Find range and MAD of 2,4,4,6; explain MAD in kid-friendly words.

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10.345 Directions:

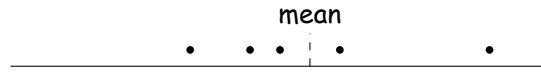
Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Two sets both mean 10; MADs 1.2 and 5.8. Compare consistency.

10.346 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Use the balance diagram to explain mean.



10.347 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A mean rises by 3 when one value rises by 24. Find number of observations.

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10.348 Directions:

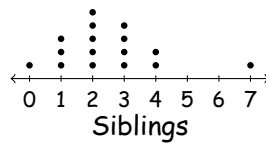
Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

When one new extreme value is added to a data set, explain which of the mean, median, mode, range, and MAD must change and which may change. Give examples when a change is not guaranteed.

10.349 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Analyze the line plot: count, mode, cluster, gap, possible outlier.



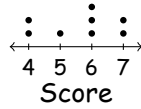
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10.350 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Write the ordered data list from the line plot.



10.351 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

For right skew, predict mean versus median and explain tail pull.

10.352 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Explain why symmetric does not automatically mean normal distribution.

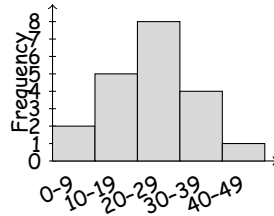
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10.353 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Analyze histogram: total frequency, modal interval, shape, and one exact statistic unavailable.



10.354 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Explain how wider bins may hide clusters.

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10.355 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Create nonoverlapping bins of width 10 covering 50 through 99.

10.358 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Create a misleading graph with truncated axis and explain how to repair it.

10.356 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A histogram has bins 0-9,10-19,20-29 with frequencies 3,4,3. Find smallest and largest possible means for whole-number data.

10.359 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Find five-number summary and IQR of 2,4,5,7,9,10,12,15 using book convention.

10.357 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A right-skewed set has mean 42 and median 35. Explain why plausible but not guaranteed.

10.360 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Interpret $Q_1=72$ for quiz scores.

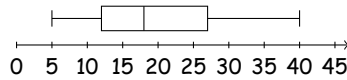
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10.361 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Read the five-number summary from the box plot.



10.362 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Two box plots have equal medians but IQRs 6 and 18. Compare middle-half variability.

10.363 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Can a box plot reveal exact mode? Explain preserved and discarded information.

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10.364 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Class A median 82 IQR 8; B median 78 IQR 20.

Compare center and spread.

10.367 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A school samples only basketball players to estimate all Grade 6 heights. Identify population, sample, bias, and better plan.

10.365 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Create two data sets with same five-number summary but different means.

10.368 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Explain why 5,000 volunteers can be less trustworthy than a random sample of 200.

10.366 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

A box is narrow and right whisker long. Describe concentration and likely skew without claiming exact mean.

10.369 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Rewrite "Do you support the wasteful new schedule?" neutrally.

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10.370 Directions:

Complete all work on separate paper. Show calculations, reasoning, and labeled diagrams as appropriate..

Design a backpack-weight investigation: question, variable, population, sample, display, and summaries.