

9.3 Choosing a Data Display

Chapter 9: Statistics and Data Analysis

Name: _____

Date: _____

Class/Period: _____

Problem 9.33 A class records each student's favorite ice cream flavor. Would a bar graph or line plot communicate the results more clearly? Justify your choice using the data type.

Problem 9.36 A graph has category names but no vertical-axis label. Describe two questions that the missing label prevents you from answering confidently.

Problem 9.34 A teacher records the shoe sizes of 20 students. Choose between a bar graph and line plot, then explain what exact information your choice preserves.

Problem 9.37 A line plot has 4 marks at 2, 3 marks at 3, and 5 marks at 4. Find the sample size and identify the mode.

Problem 9.35 A bar graph compares four transportation categories. Explain why the spaces between bars help the reader understand the data.

Problem 9.38 Construct a line plot for 1, 1, 2, 3, 3, 3, 4. Then write one observation about its center or cluster.

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Problem 9.39 Construct a frequency table for 5, 6, 6, 7, 7, 7, 8, 8. Explain one question the table answers faster than the raw list.

Problem 9.42 Create 18 numerical values whose line plot has one clear cluster and one internal gap. State where each feature appears.

Problem 9.40 A numerical data set contains 40 distinct temperatures. Explain why a line plot may become cluttered and name a display that could group nearby values.

Problem 9.43 A bar graph uses jersey numbers as categories. Explain why numerical-looking category labels do not automatically make the graph a numerical distribution.

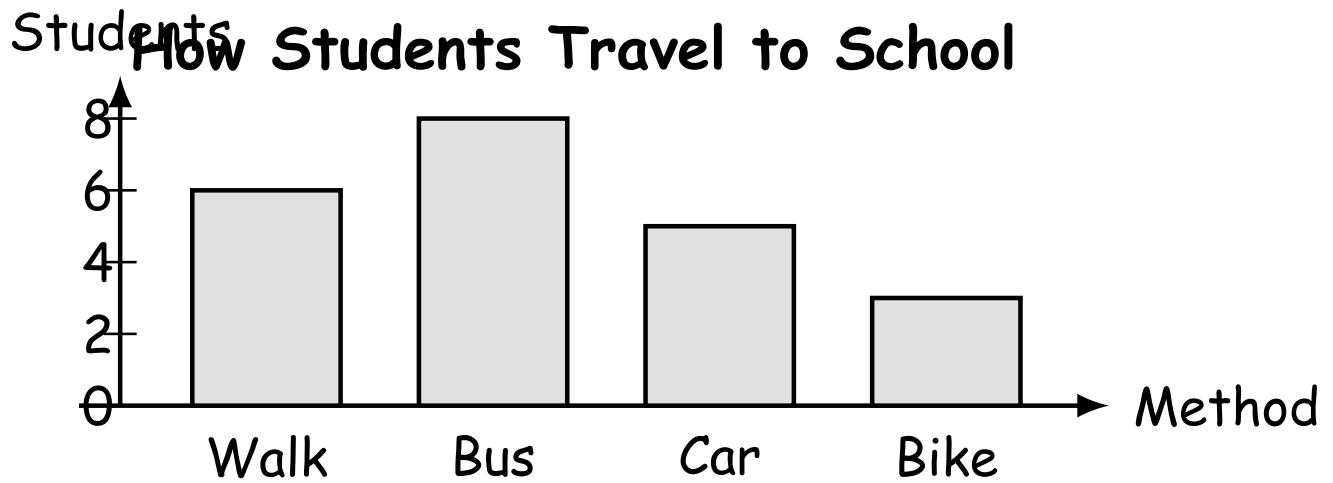
Problem 9.41 A school records transportation method and travel time. Choose a display for each variable and explain why the displays differ.

Problem 9.44 Two displays show the same small numerical data set. Write one question that is easier to answer from a frequency table and one that is easier from a line plot.

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Problem 9.45 Study the bar graph.

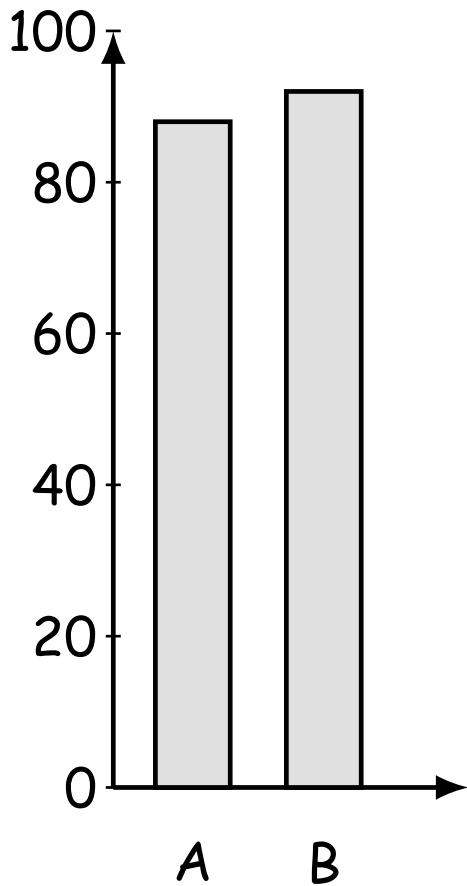


How many students are represented? Which statement is supported: "More students walk than ride in a car," or "Students who walk live closest to school"? Explain why only one conclusion follows from the graph.

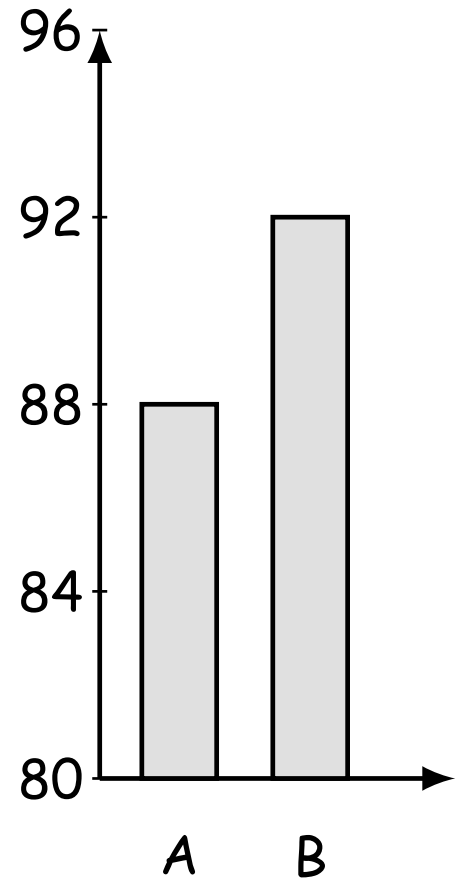
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Problem 9.46 The two graphs show the same scores, 88 and 92, with different vertical scales.



Axis begins at 0



Axis begins at 80

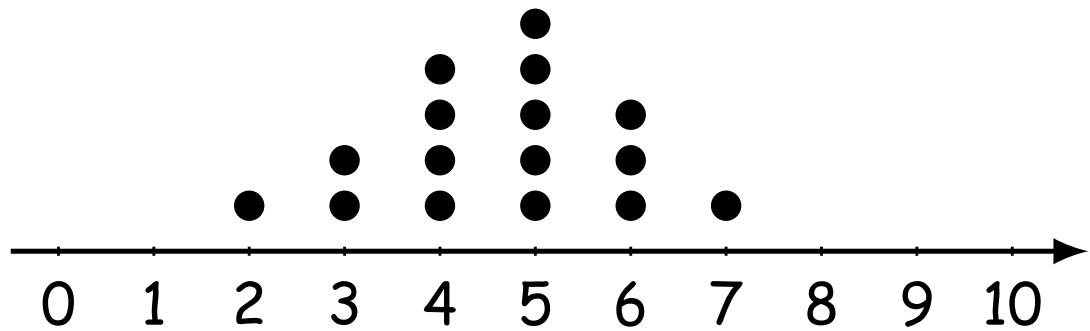
Which graph makes the difference look larger? Do the data themselves change? Explain which graph gives the more honest first impression.

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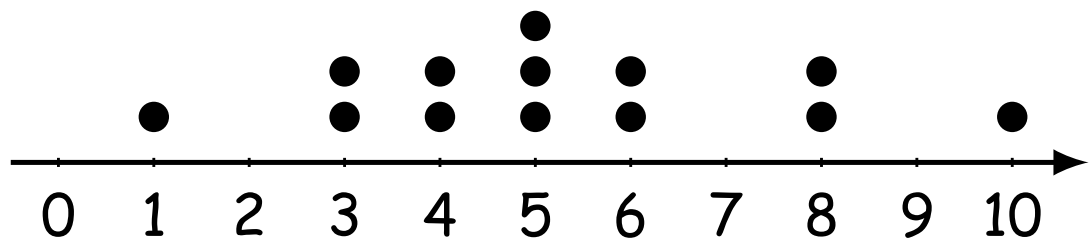
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Problem 9.47 Study the two line plots.

Class A



Class B



Which class is more tightly clustered? Which class has the greater range? Write one comparison supported by the diagrams.

Problem 9.48 A line plot preserves every exact value, while a histogram groups values. Describe one investigation for which preserving exact values is essential and one for which grouping is more useful.