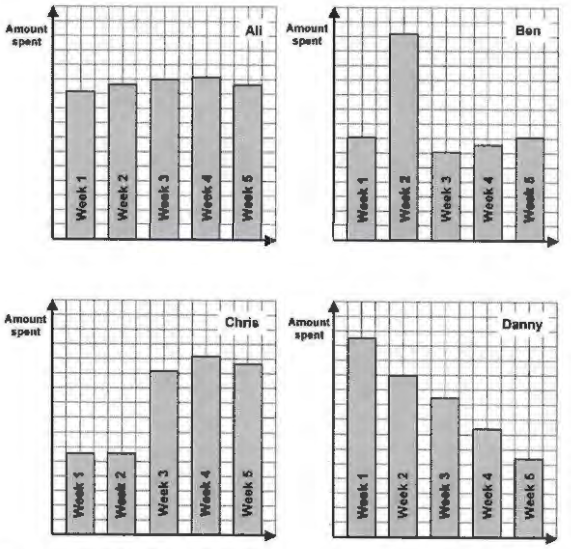
Name KEY '14 Date

Interpreting Different Types of Graphs

Problem 1

These bar charts show how much money four children, Ali, Ben, Chris and Danny, spent each week for five weeks.



1) This is what the four children said about what they had spent.
Write the correct name next to each statement.

"I spent less and less money each week." Name: Danny

"I spent more in the last three weeks than in the first two." Name: Chris

"I spent about the same amount each week except one week when I bought an expensive present for my sister." Name: Ben

"I spent about the same amount each week." Name: Ali

2) a) Which child spent the most money in the first week? Name: Danny

b) Which child spent the most money altogether? Name: Ali

Show how you know.

Answers will vary

Sample: I made each line going up worth one. Then I counted how tall each bar was for each person and added the 5 weeks together to get a total. Ali had highest sum.

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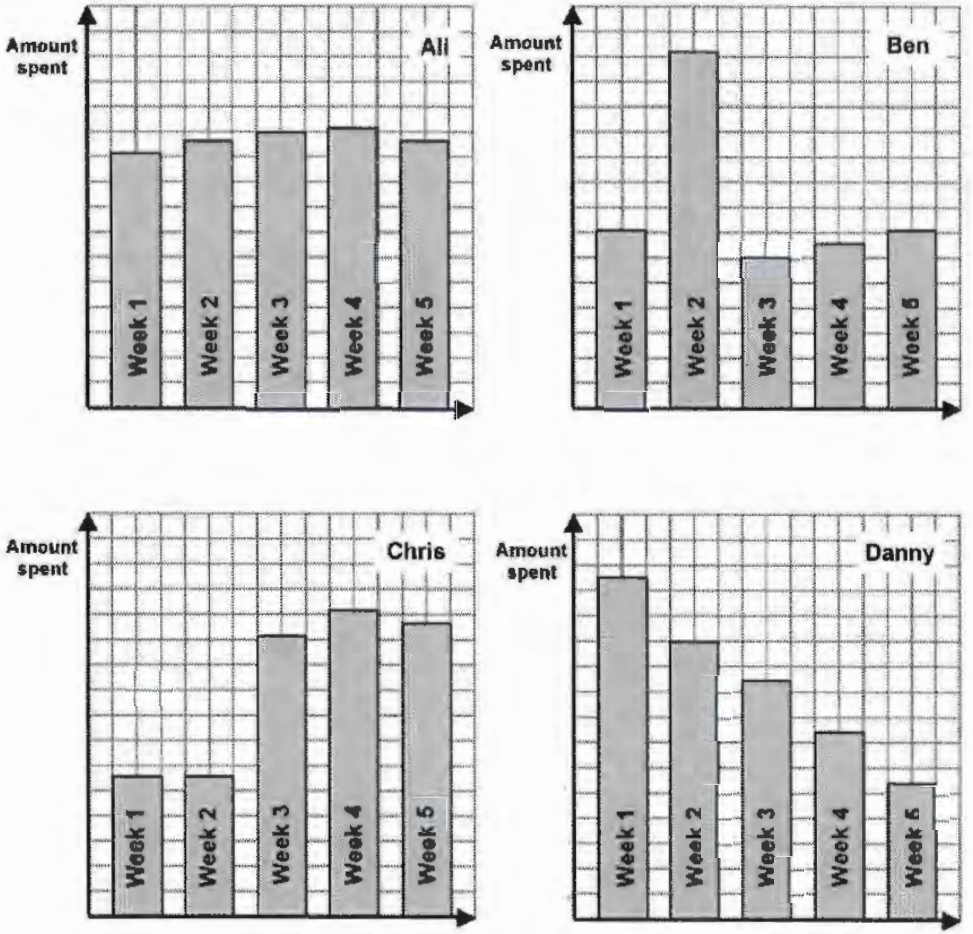

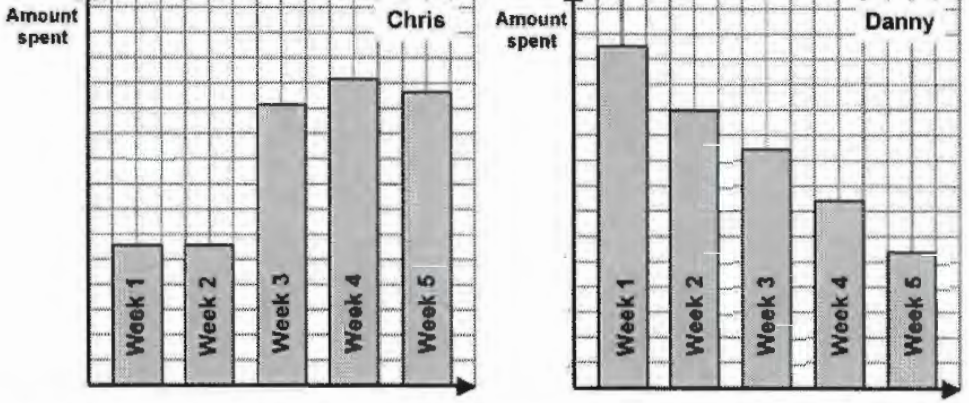

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Show how you know.

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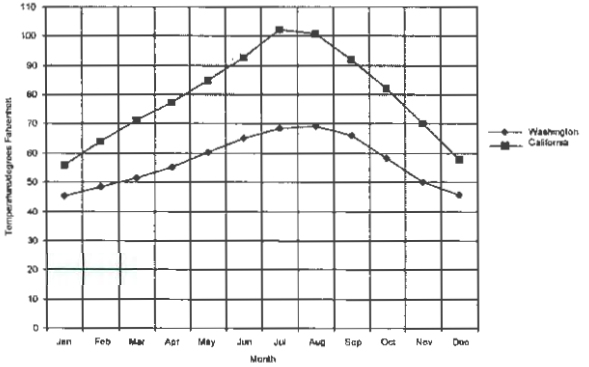
Sample: I made each line going up worth one. Then I counted how tall each bar was for each person and added the 5 weeks together to get a total. Ali had highest sum.

Problem 3

This graph shows the average highest temperatures for each month of the year for one place in Washington and one place in California.

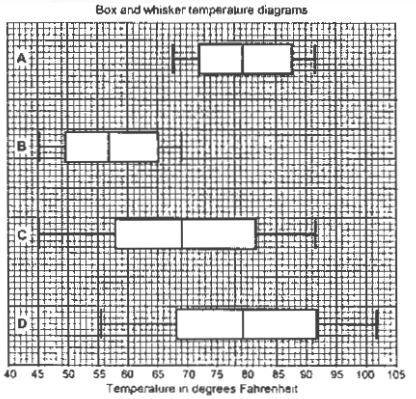


1) Write a statement about what is the same in the two sets of temperatures.

Both temperatures are the lowest in Jan and Dec and get much warmer in June - August.

2) Write a statement about what is different in the two sets of temperatures.

The average temperature is always higher in California each month.

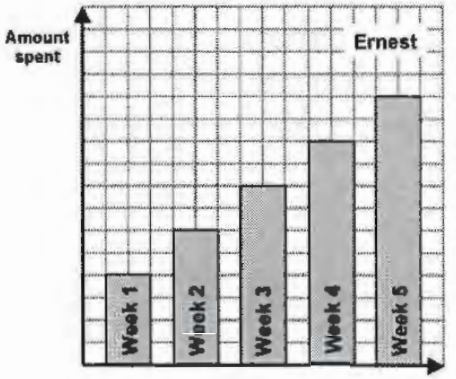


3) Which of the four box diagrams shows the Washington temperatures? B

Explain how you decided.

I used the minimun and maximum values and matched them with the lowest temp and highest temp. from the graph in problem 3.

3) This bar chart shows how much Ernest spent during the five weeks. Write a description to fit Ernest's bar chart.



Each week Ernest's spending increases

Problem 2

Mrs. Campbell wanted students to decrease the amount of time they watched television. She wrote a series of letters to parents describing activities their children could do rather than watch television.

Mrs. Campbell asked the students to report the number of hours they watched television, both during the week before their parents received the letters and the week after. The information she gathered is displayed in the stem-and-leaf plots below.

Each plot indicates the number of hours each of her 26 students watched television for the week.

Week Before Letters

Hours	
0	0
1	0 2 3 8 8 9
2	0 1 2 3 4 4 6 8

Week After Letters

Hours	
0	0 5 8 9
1	0 0 1 2 3 3 5 8 8 9
2	1 2 2 6 7 9

18+19 = 37 ÷ 2 = 18.5

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0	0
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3	0 1 1 2 3 5 5 7 8
4	0 1

Week After Letters

Hours

0	0 5 8 9
1	0 0 1 2 3 3 5 8 8 9
2	1 2 2 6 7 9
3	1 1 2 5 8
4	1

18+19 = 37 ÷ 2 = 18.5

Key

1 | 0	= 10

1) Describe the shapes of the stem-and-leaf plots before and after the letters.

Before the letters there were many more students watching between 20-30 hours of TV. After letter, more between 10-20 hours

2) Find the ranges before and after the letters.

Before 41 After 41

3) Find the medians before and after the letters.

Before 25 After 18.5

Before

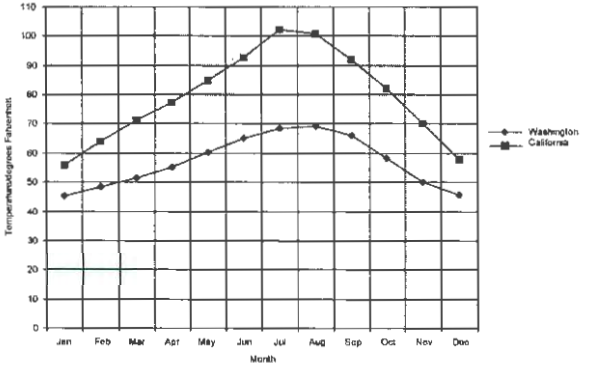
0, 10, 12, 13, 18, 18, 19, 20, 21, 22, 23, 24, 24, 26, 28, 30, 31, 31, 32, 33, 35, 35, 37, 38, 40, 41

50 ÷ 2

25

Problem 3

This graph shows the average highest temperatures for each month of the year for one place in Washington and one place in California.



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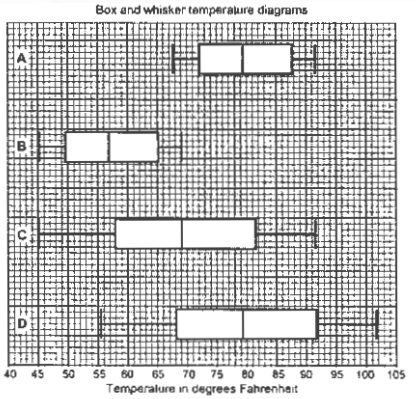

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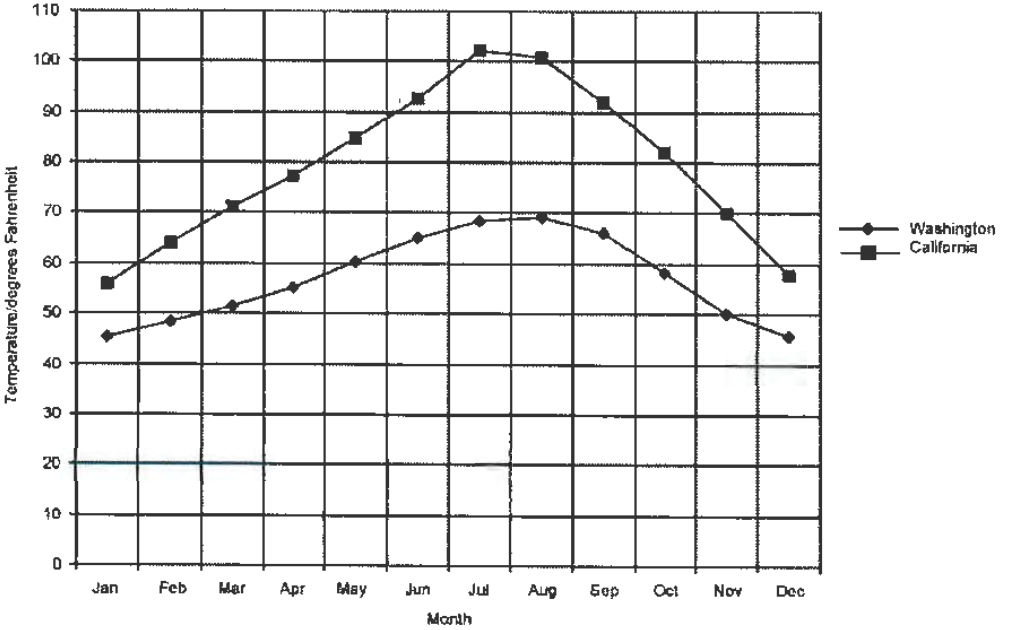

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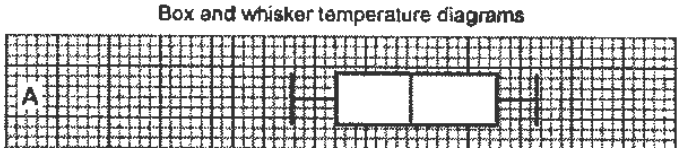

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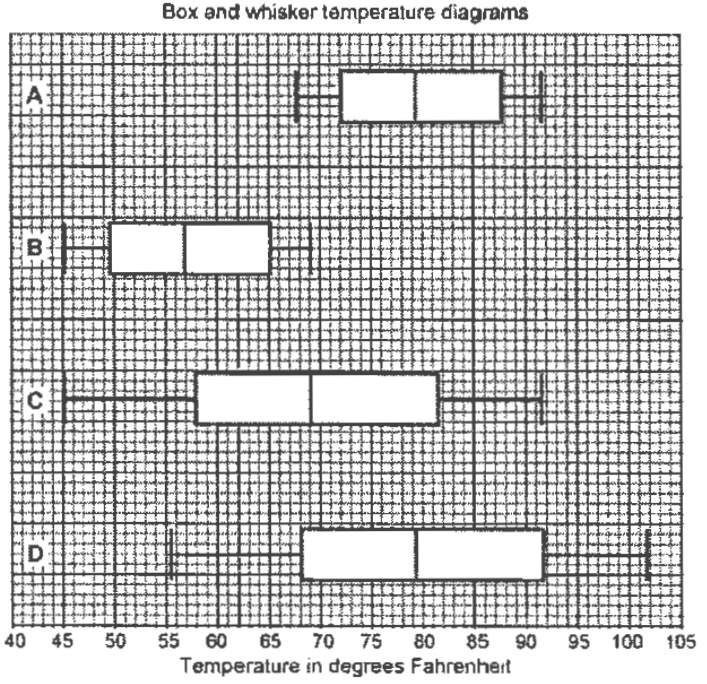

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4) Which of the four box diagrams shows the California temperatures? D

For which months of the year is the monthly temperature for California between the upper and the lower quartiles? Explain how you figured it out.

March through June (you could argue that Feb works too) because the lower quartile is about 68° and the upper quartile is about 92° in the box and whisker, which matches the temps. for March-June on the graph in #3.

Problem 4

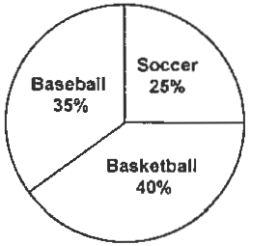
In Lake City, boys in the 8th grade were also surveyed. The results of this survey are shown in the circle graph below.

1) Seventy-two boys liked basketball best. How many boys were there in the 8th grade survey? 180
Show your calculations.

$\frac{72}{x} = \frac{40}{100}$ (2, 5)

$36 \cdot 72 = 2x$ (1)

$x = 180$



The 8th grade baseball teams from Lake City and Appleton plan to play a game.

Luis has seen a survey of Appleton's 8th grade boys' favorite sports. The survey shows that 50% of them like baseball best.

Luis says that this will not be fair because more boys in Appleton like baseball best, so there will be more boys to choose from for the team.

Kyle says he thinks Luis is wrong.

2) Explain why Luis might be wrong in thinking that more boys prefer baseball in Appleton than in Lake City.

If there are not many boys in Appleton then 50% may not be a large #. Example: If there are only 20 boys in Appleton then there would only be 10 boys on the team. Knowing the total amount of boys is better information then the percent alone.

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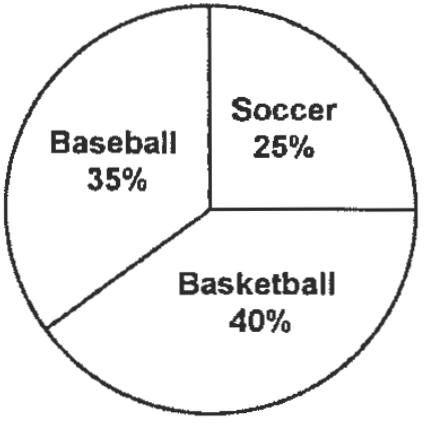

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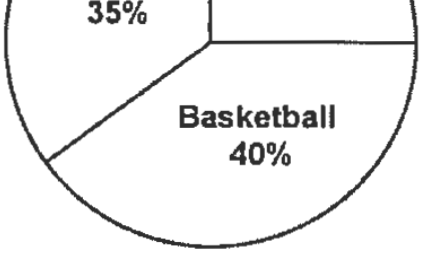

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