Name $\qquad$ ICP Frequency Tables, Central Tendencies, and Bar Charts/Box Plots 9-14-15

Dr. Spock and Mr. Data both teach advanced classes at the star fleet academy.
Dr. Spock is from the old school and his grading scale is the $7 \%$ scale meaning below 70 is failing grade, 70 to 76 is a D , 77 to 84 is a C, and 85 to 92 is a B, and 93 and above is an $A$

Mr. Data is definitely not from the old school, his grading scale is the $10 \%$ scale, this is the scale that you enjoy at Richwoods High School. This scale has scores below a 60 as failing, 60 to 69 is a D, 70 to 79 is a C, 80 to 89 is a B, and 90 and above is an A.

| Spock Scores | Sorted Spock | Data Scores | Sorted Data | Frequency Table for Spock's scores | Frequency Table for Data's Scores |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 103.2 |  | 46.1 |  | A (92.5 and above) | A (89.5 and above) |
| 77.7 |  | 100. |  |  |  |
| 66.2 |  | 92.2 |  |  |  |
| 59.5 |  | 79.2 |  |  |  |
| 44.7 |  | 63.2 |  | B (84.5 to 92.4) | B (79.5 to 89.4) |
| 69.6 |  | 84.7 |  |  |  |
| 75.1 |  | 54.6 |  |  |  |
| 46.6 |  | 68.6 |  |  |  |
| 100. |  | 66.9 |  | C (76.5 to 84.4) | C (69.5 to 79.4) |
| 78.1 |  | 57.2 |  |  |  |
| 84.7 |  | 79.7 |  |  |  |
| 90.9 |  | 79.2 |  |  |  |
| 70. |  | 80. |  | D (69.5 to 76.4) | D (59.5 to 69.4) |
| 88.7 |  | 80.4 |  |  |  |
| 86. |  | 87.7 |  |  |  |
| 64.5 |  | 99.4 |  |  |  |
| 87.6 |  | 83.6 |  | F (0 to 69.4) | F (0 to 59.4) |
| 92.7 |  | 44. |  |  |  |
| 79.1 |  | 58.4 |  |  |  |
| 53.6 |  | 96.2 |  |  |  |
| 104.2 |  | 60. |  | Median of the all scores | Median of the all scores |
| 96. |  | 25.2 |  |  |  |
| 78.2 |  | 90.9 |  |  |  |
| 93.2 |  | 70.2 |  |  |  |
| Class mean | Class <br> Mode | Class mean | Class <br> Mode | Median of first half of the scores | Median of first half of the scores |
|  | Sum of all scores |  | Sum of all scores | Median of the second half of the scores | Median of the second half of the scores |
|  | 1890.1 |  | 1747.6 |  |  |

Spock's Bar Chart 1

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| Spock Box Plot 1 |  |  |  |  |  |  |  |  |  |  |
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| 09 | $10 \quad 19$ | $20 \quad 29$ | $30 \quad 39$ | $40 \quad 49$ | $50 \quad 59$ | 6069 | 7079 | 8089 | $90 \quad 99$ | 100 above |
| Data Box Plot 1 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 09 | $10 \quad 19$ | $20 \quad 29$ | $30 \quad 39$ | $40 \quad 49$ | $50 \quad 59$ | 6069 | 7079 | 8089 | $90 \quad 99$ | 100 above |

Now that we have practiced two of these together, you should be able to do two on your own

| Spock <br> Scores <br> 2 | Sorted Spock 2 | Data Scores 2 | Sorted Data 2 | Frequency Table 2 for Spock's scores | Frequency Table 2 for Data's Scores |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 73. |  | 57.5 |  | A (92.5 and above) | A (89.5 and above) |
| 93.5 |  | 100.5 |  |  |  |
| 71. |  | 86.5 |  |  |  |
| 79.5 |  | 74. |  |  |  |
| 85. |  | 106. |  | B (84.5 to 92.4) | B (79.5 to 89.4) |
| 96.5 |  | 100.5 |  |  |  |
| 74.5 |  | 81. |  |  |  |
| 68. |  | 93. |  |  |  |
| 106.5 |  | 103.5 |  | C (76.5 to 84.4) | C (69.5 to 79.4) |
| 91.5 |  | 98. |  |  |  |
| 81.5 |  | 95.5 |  |  |  |
| 90.5 |  | 87.5 |  |  |  |
| 51. |  | 99. |  | D (69.5 to 76.4) | D (59.5 to 69.4) |
| 88.5 |  | 74. |  |  |  |
| 69.5 |  | 103.5 |  |  |  |
| 12.5 |  | 107.5 |  |  |  |
| 68. |  | 84.5 |  | F (0 to 69.4) | F (0 to 59.4) |
| 90.5 |  | 84. |  |  |  |
| 87. |  | 81. |  |  |  |
| 73.5 |  | 97. |  |  |  |
| 72.5 |  | 88. |  | Median of the all scores | Median of the all scores |
| 85. |  | 72.5 |  |  |  |
| 97.5 |  | 100.5 |  |  |  |
| 97.5 |  | 84. |  |  |  |
| 81. |  |  |  |  |  |
| 59.5 |  |  |  |  |  |
| Class <br> mean | Class <br> Mode | Class mean | Class <br> Mode | Median of first half of the scores | Median of first half of the scores |
|  | Sum of class scores |  | Sum of class scores | Median of the second half of the scores | Median of the second half of the scores |
|  | 2044.5 |  | 2159. |  |  |

Hint: enter this data on a list page on an TI Nspire and we can quickly check your progress
Use these list names spock2, and data2 (NO GAPS IN NAMES OF LISTS)

Spock's Bar Chart 2

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| Frequency Table 3 for Spock's <br> scores |  | Frequency Table 3 for Data's <br> Scores |  |
| :---: | :---: | :--- | :--- |
| A (92.5 and 100) |  | A (89.5 and 100) |  |
| 8 |  | 9 |  |
| B (84.5 to 92.4) |  | B (79.5 to 89.4) |  |
| 5 |  | C (69.5 to 79.4) |  |
| C (76.5 to 84.4) |  |  |  |
| 7 |  | D (59.5 to 69.4) |  |
| D (69.5 to 76.4) |  | 5 |  |
| 3 |  | F (49.5 to 59.4) |  |
| F (59.5 to 69.4$)$ |  | 3 |  |
| 4 |  |  |  |

How many students took Dr. Spock's third test? $\qquad$
Is there a true median for this many students? $\qquad$ Which grade interval does the median occur? $\qquad$
Determine the mean for Dr. Spock's third set of scores $\qquad$
Determine the median of Dr. Spock's third set of scores $\qquad$

How many students took Mr. Data's third test? $\qquad$
Is there a true median for this many students? $\qquad$ Which grade interval does the true median occur? $\qquad$
Determine the mean for Mr. Data's third set of scores $\qquad$
Determine the median of Mr. Data's third set of scores $\qquad$

1. Explain in a step by step process how to create a list on a TI Nspire
2. What are you NOT allowed to name a list as? (be specific)
3. How do you get the TI Nspire to sort your list data from lowest to highest?
4. How do you get the TI Nspire to sort your list data from highest to lowest?
5. How do your determine the median of a list of twenty scores?
6. How do you find the median of the first half of a list of twenty numbers
7. How do you find the median of the second half of a list of twenty numbers
8. How do you find the median from a frequency table?
9. How do you find the median of a list of twenty-one scores
10. How do you find the median of the first half of a list of twenty-one numbers
11. How do you find the median of the second half of a list of twenty-one numbers
12. How do you find mean from a frequency table?

Name $\qquad$ HWK Frequency Tables, Central Tendencies, and Bar Charts/Box Plots 9-14-15

Captain Kirk and Captain Picard both teach advanced classes at the star fleet academy.
Captain Kirk is from the old school and his grading scale is the $7 \%$ scale meaning below 70 is failing grade, 70 to 76 is a D, 77 to 84 is a C, and 85 to 92 is a B, and 93 and above is an $A$

Captain Picard is definitely not from the old school, his grading scale is the $10 \%$ scale, this is the scale that you enjoy at Richwoods High School. This scale has scores below a 60 as failing, 60 to 69 is a D, 70 to 79 is a C, 80 to 89 is a B, and 90 and above is an A.

| Kirk 1 Scores | Sorted <br> Kirk 1 | Picard 1 Scores | Sorted Picard 1 | Frequency Table for Spock's scores | Frequency Table for Picard's Scores |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50 |  | 47 |  | A (92.5 and above) | A (89.5 and above) |
| 54 |  | 48 |  |  |  |
| 58 |  | 59 |  |  |  |
| 97 |  | 58 |  |  |  |
| 85 |  | 59 |  | B (84.5 to 92.4) | B (79.5 to 89.4) |
| 63 |  | 68 |  |  |  |
| 51 |  | 51 |  |  |  |
| 587 |  | 57 |  |  |  |
| 95 |  | 86 |  | C (76.5 to 84.4) | C (69.5 to 79.4) |
| 67 |  | 93 |  |  |  |
| 58 |  | 98 |  |  |  |
| 49 |  | 97 |  |  |  |
| 54 |  | 85 |  | D (69.5 to 76.4) | D (59.5 to 69.4) |
| 63 |  | 96 |  |  |  |
| 83 |  | 94 |  |  |  |
| 100 |  | 95 |  |  |  |
| 54 |  | 85 |  | F (0 to 69.4) | F (0 to 59.4) |
| 64 |  | 81 |  |  |  |
| 95 |  | 86 |  |  |  |
|  |  | 22 |  |  |  |
|  |  |  |  | Median of the all scores | Median of the all scores |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Class mean | Class <br> Mode | Class mean | Class <br> Mode | Median of first half of the scores | Median of first half of the scores |
|  |  |  |  |  |  |
|  | Sum of all scores |  | Sum of all scores | Median of the second half of the scores | Median of the second half of the scores |
|  | 1827 |  | 1465 |  |  |

Kirk's Bar Chart 1

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Kirk Box Plot 1

| Kirk Box Plot 1 |  |  |  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |  |  |  |
| 09 | $10 \quad 19$ | $20 \quad 29$ | $30 \quad 39$ | $40 \quad 49$ | 5059 | 6069 | 7079 | 8089 | $90 \quad 99$ | $100$ <br> above |
| Picard Box Plot 1 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 09 | $10 \quad 19$ | $20 \quad 29$ | $30 \quad 39$ | $40 \quad 49$ | 5059 | 6069 | 7079 | 8089 | $90 \quad 99$ | $100$ above |


| Kirk Scores 2 | Sorted <br> Kirk2 | Picard Scores 2 | Sorted Picard 2 | Frequency Table 2 for Spock's scores | Frequency Table 2 for Data's Scores |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 48 |  | 89 |  | A (92.5 and above) | A (89.5 and above) |
| 97 |  | 89 |  |  |  |
| 56 |  | 87 |  |  |  |
| 58 |  | 84 |  |  |  |
| 94 |  | 85 |  | B (84.5 to 92.4) | B (79.5 to 89.4) |
| 62 |  | 86 |  |  |  |
| 85 |  | 83 |  |  |  |
| 76 |  | 85 |  |  |  |
| 95 |  | 86 |  | C (76.5 to 84.4) | C (69.5 to 79.4) |
| 79 |  | 82 |  |  |  |
| 84 |  | 81 |  |  |  |
| 86 |  | 95 |  |  |  |
| 83 |  | 95 |  | D (69.5 to 76.4) | D (59.5 to 69.4) |
| 81 |  | 96 |  |  |  |
| 85 |  | 94 |  |  |  |
| 94 |  | 95 |  |  |  |
| 87 |  | 50 |  | F (0 to 69.4) | F (0 to 59.4) |
| 85 |  | 51 |  |  |  |
|  |  | 54 |  |  |  |
|  |  | 54 |  |  |  |
|  |  | 53 |  | Median of the all scores | Median of the all scores |
|  |  |  |  |  |  |
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| $\begin{aligned} & \text { Class } \\ & \text { mean } \end{aligned}$ | Class <br> Mode | Class mean | Class <br> Mode | Median of first half of the scores | Median of first half of the scores |
|  |  |  |  |  |  |
|  | $\begin{array}{\|l} \hline \text { Sum of } \\ \text { class } \\ \text { scores } \\ \hline \end{array}$ |  | Sum of class scores | Median of the second half of the scores | Median of the second half of the scores |
|  | 1435 |  | 1674 |  |  |

Hint: enter this data on a list page on an TI Nspire and we can quickly check your progress
Use these list names kirk2, and picard2 (NO GAPS IN NAMES OF LISTS)

Kirk's Bar Chart 2


Kirk Box Plot 2

| Kirk Box Plot 2 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
| 09 | $10 \quad 19$ | 2029 | $30 \quad 39$ | $40 \quad 49$ | 5059 | 6069 | 7079 | 8089 | $90 \quad 99$ | $100$ <br> above |
| Picard Box Plot 2 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 09 | $10 \quad 19$ | 2029 | $30 \quad 39$ | $40 \quad 49$ | $50 \quad 59$ | 6069 | 7079 | 8089 | $90 \quad 99$ | 100 above |


| Frequency Table 3 for Kirk's scores | Frequency Table 3 for Picard's Scores |  |
| :---: | :---: | :---: |
| A (92.5 and 100) | A (89.5 and 100) |  |
| 10 | 3 |  |
| B (84.5 to 92.4) | B (79.5 to 89.4) |  |
| 3 | 7 |  |
| C (76.5 to 84.4) | C (69.5 to 79.4) |  |
| 1 | 12 |  |
| D (69.5 to 76.4) | D (59.5 to 69.4) |  |
| 9 | 8 |  |
| F (59.5 to 69.4) | F (49.5 to 59.4) |  |
| 5 | 2 |  |

How many students took Captain Kirk's third test? $\qquad$
Is there a true median for this many students? $\qquad$ Which grade interval does the median occur? $\qquad$
Determine the mean for Captain Kirk's third set of scores $\qquad$
Determine the median of Captain Kirk's third set of scores $\qquad$

How many students took Captain Picard's third test? $\qquad$ Is there a true median for this many students? $\qquad$ Which grade interval does the true median occur? $\qquad$
Determine the mean for Captain Picard's third set of scores $\qquad$
Determine the median of Captain Picard's third set of scores $\qquad$

1. Explain the issues related to determining the data from the third test
2. Why is the data from the first two tests more reliable than that of the third test?
3. How can you determine the sum of a list from a list page on a TI Nspire?
4. How can you determine the sum of a list from a calculator page on the TI Npsire?
5. Explain how to determine the box plot of a class that has 28 scores
6. Explain how to determine the box plot of a class that has 29 scores
7. Explain how to determine the box plot of a class that has 31 scores
