

4-8-19

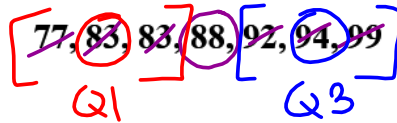
Aim: SWBAT construct dot plots, box plots, frequency tables, and histograms.

HW: Packet Page 24 - 27

Test Friday

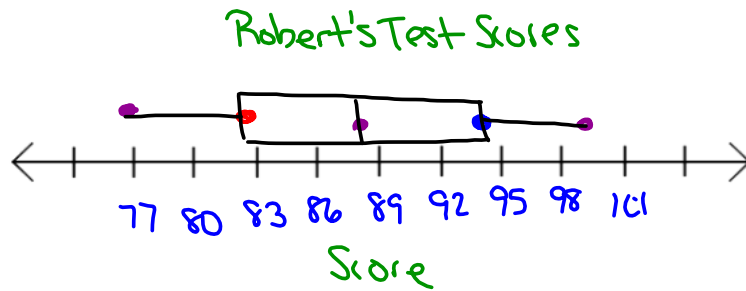
Do Now: Packet Page 23

Example 1) The following are Robert's test scores for math class:



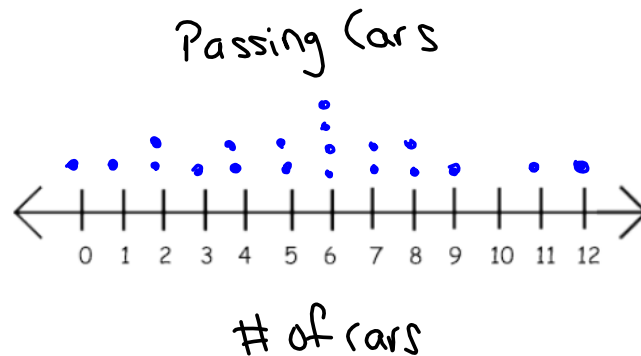
Construct a box and whisker plot for the data. Don't forget to title the graph and label its axis.

|             |           |                      |                     |
|-------------|-----------|----------------------|---------------------|
| Minimum:    | <u>77</u> | Quartile 3:          | <u>94</u>           |
| Quartile 1: | <u>83</u> | Maximum:             | <u>99</u>           |
| Median:     | <u>88</u> | Interquartile Range: | <u>94 - 83 = 11</u> |
|             |           |                      | <u>Q3 - Q1</u>      |



Example 2) Maria counts the number of cars that go by as she waits for the school bus in the morning. Construct a dot plot on the number line for her data. Don't forget to title the graph and label its axis.

0, 1, 2, 2, 3, 4, 4, 5, 5, 6, 6, 6, 6, 7, 7, 8, 8, 9, 11, 12



Interval - A group of numbers such as 1-10 or 50-79

Frequency Table - A diagram that shows the amount of times an interval appears

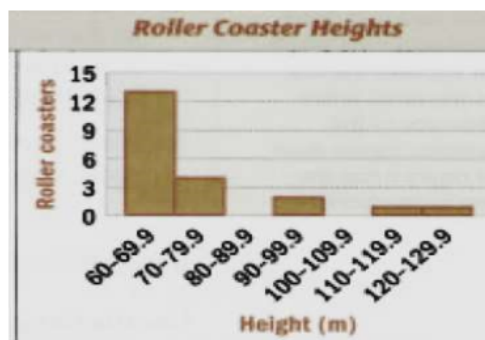
Histogram - A diagram that displays data from a frequency table.

- Intervals must go on the x-axis and the bars must touch.
- Frequencies go on the y-axis.
- Be sure that each interval contains the same number of values.
- Be sure to label your axes and give your graph a title.

Frequency Table

| Height (m) | Tally | Frequency |
|------------|-------|-----------|
| 60-69.9    |       | 13        |
| 70-79.9    |       | 4         |
| 80-89.9    |       | 0         |
| 90-99.9    |       | 2         |
| 100-109.9  |       | 0         |
| 110-119.9  |       | 1         |
| 120-129.9  |       | 1         |

Histogram



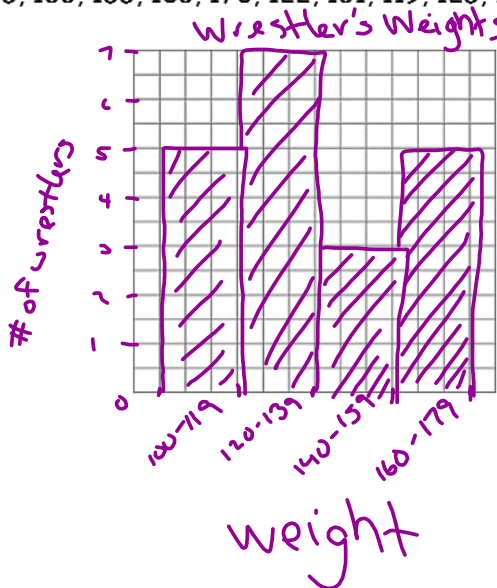
**Example 3)** The following data shows wrestlers' weights (in lbs.) for the town wrestling team. Complete the frequency table below and then create a histogram for the data using the grid.

Be sure to:

- Give your graph a title
- Label both axes
- Make your bars the same width (# of boxes)
- Make your bars touch
- Choose a scale on the y-axis is appropriate

Weights: 121, 140, 165, 172, 110, 105, 178, 145, 133, 155, 103, 170, 122, 131, 119, 125, 127, 162, 113, 121

| Interval | Tally | Frequency |
|----------|-------|-----------|
| 100-119  |       | 5         |
| 120-139  |       | 7         |
| 140-159  |       | 3         |
| 160-179  |       | 5         |

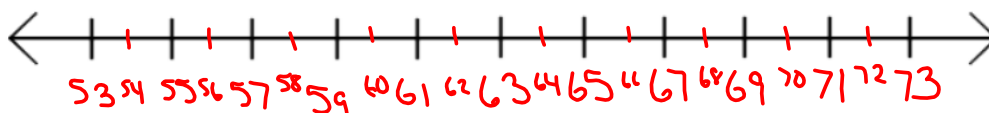


**HOMWORK**

1A) Construct a **dot plot** on the number line for the following data. Don't forget to title the graph and label its axis.

Heights in inches of 20 students in a class:

53, 60, 61, 63, 64, 65, 65, 65, 65, 66, 66, 67, 67, 68, 69, 70, 70, 71, 71, 73



1B) Construct a **box plot** on the number line for the same data. . Don't forget to title the graph and label its axis.

Heights in inches of 20 students in a class:



Minimum: 53

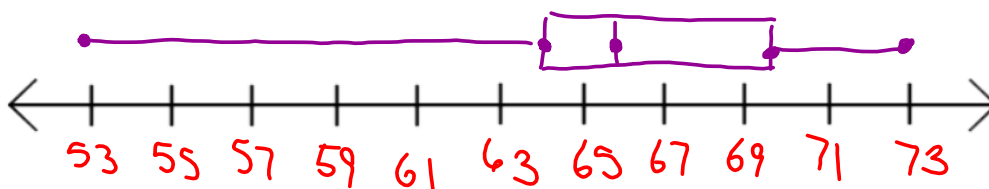
Quartile 3: 69.5

Quartile 1: 64.5

Maximum: 73

Median: 66

Interquartile Range: 69.5 - 64.5 = 5



1C) Describe the shape of the dot plot. \_\_\_\_\_

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1D) In your opinion, which graph shows a better display of the data set? Why? \_\_\_\_\_

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2) The scores earned by students on a 100-point Biology test were as follows:

83, 81, 75, 72, 79, 89, 86, 79, 58, 95, 78, 70, 74, 82, 73,

79, 84, 66, 75, 90, 81, 97, 71, 77, 80, 68, 85, 96, 93, 88

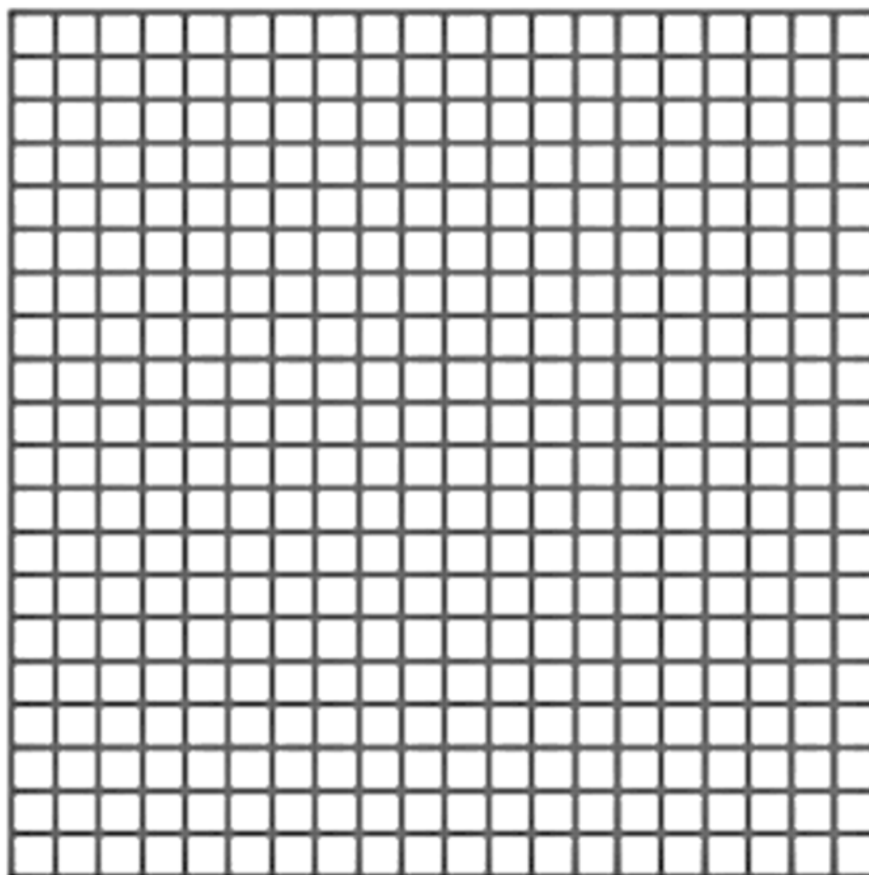
A) Complete the frequency table for the biology test scores.

| Biology Test Scores |       |           |
|---------------------|-------|-----------|
| Interval            | TALLY | FREQUENCY |
| 95 - 99             |       |           |
| 90 - 94             |       |           |
| 85 - 89             |       |           |
| 80 - 84             |       |           |
| 75 - 79             |       |           |
| 70 - 74             |       |           |
| 65 - 69             |       |           |
| 60 - 64             |       |           |
| 55 - 59             |       |           |

B) Complete the frequency histogram (on the next page) for the biology test scores.

Be sure to:

- Give your graph a title
- Label both axes
- Make your bars the same width (# of boxes)
- Make your bars touch
- Choose a scale on the y-axis is appropriate



Use the frequency table and frequency histogram to answer the following questions.

- C) How many students took the test? \_\_\_\_\_
- D) How many students scored **below 70** on the biology test? \_\_\_\_\_
- E) What **percent** of the students scored below 70 on the biology test? \_\_\_\_\_  
(round your answer to the nearest percent)
- F) What **percent** of the students scored 90 or above on the biology test? \_\_\_\_\_  
(round your answer to the nearest percent)
- G) What is the mean test score? \_\_\_\_\_
- H) What is the range of the test scores? \_\_\_\_\_
- I) Which test score appeared the most often? \_\_\_\_\_