

Measures of Spread and Variation

- Range
- IQR (Interquartile Range)

How do we find “quartiles?”

I can calculate interquartile range and represent it on a box and whisker plot.

Measures of Spread and Variation

IQR: How do we find “quartiles?”

2, 6, 8, 8, 10, 12, 16

What is the IQR?

I can calculate interquartile range and represent it on a box and whisker plot.

Measures of Spread and Variation

Your Turn... (in your notes packet)

Example 1:

5, 17, 33, 52, 23, 29, 30

Lower Quartile (Q1) _____

Second Quartile (Q2) _____

Upper Quartile (Q3) _____

Range _____

Interquartile Range _____

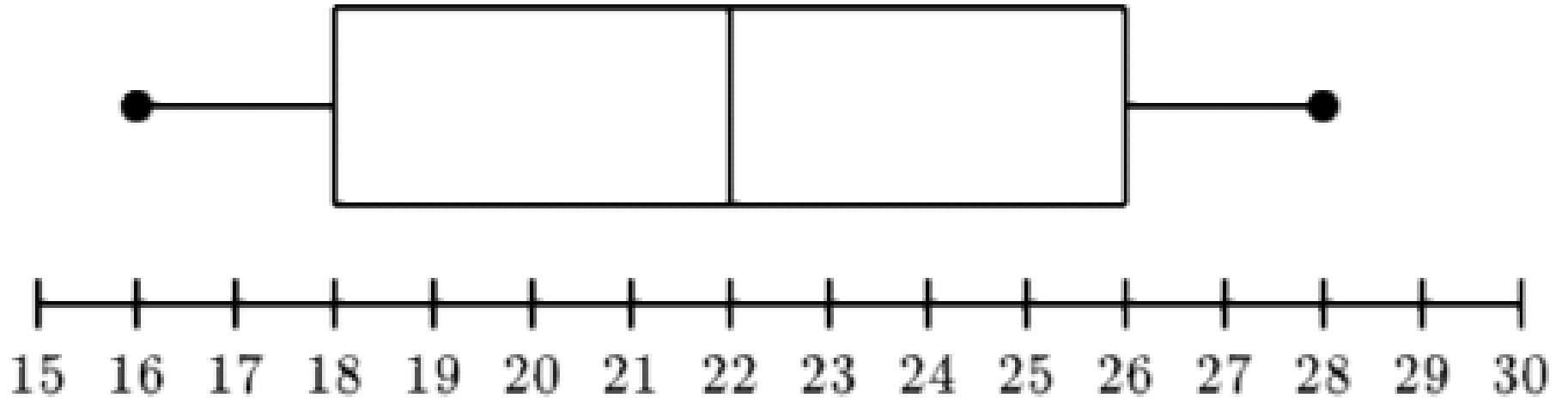
I can calculate interquartile range and represent it on a box and whisker plot.

Measures of Spread and Variation

What if...?

2, 6, 6, 8, 10, 12

I can calculate interquartile range and represent it on a box and whisker plot.

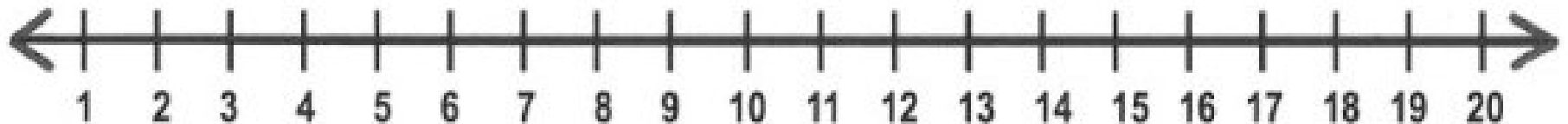


What is it?

What does it tell us?

I can calculate interquartile range and represent it on a box and whisker plot.

2, 8, 16, 12, 10, 10, 14, 18, 12, 6, 8



I can calculate interquartile range and represent it on a box and whisker plot.

Your Turn... (in your notes packet)

Students trying out for the basketball team were grouped according to height. The coach is looking to see if a student's height has any effect on his or her ability to shoot the ball. There were 19 students who were arranged by height.

Heights of Basketball Team (in inches)

55, 56, 59, 47, 60, 60, 72, 59, 63, 64, 58, 59, 65, 72, 73, 68, 63

Q1 = _____

Q2 = _____

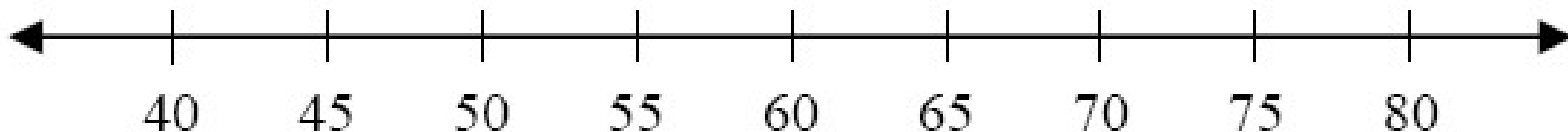
Q3 = _____

Minimum = _____

Maximum = _____

Range = _____

IQR = _____

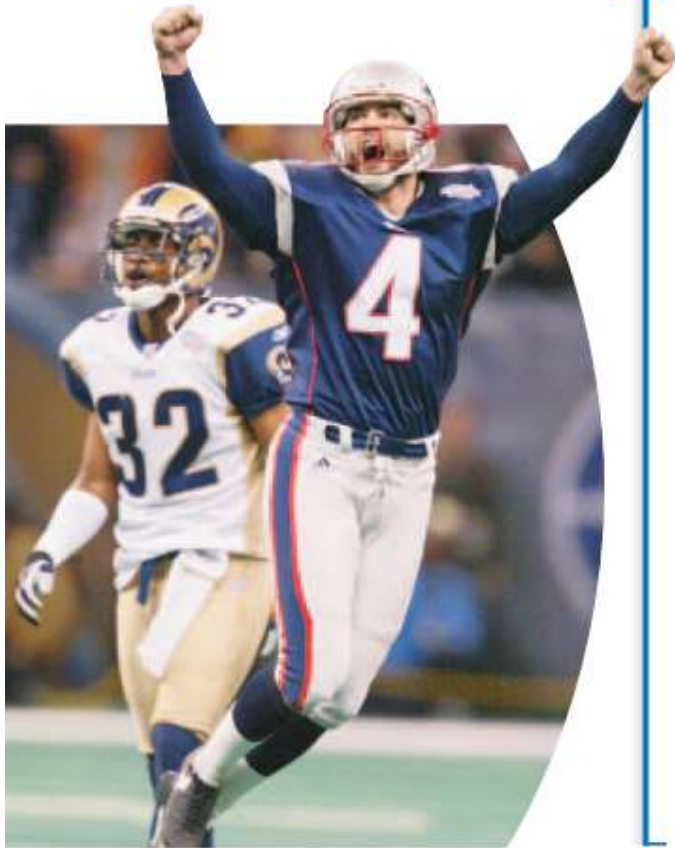


I can display and compare data using visual representations.

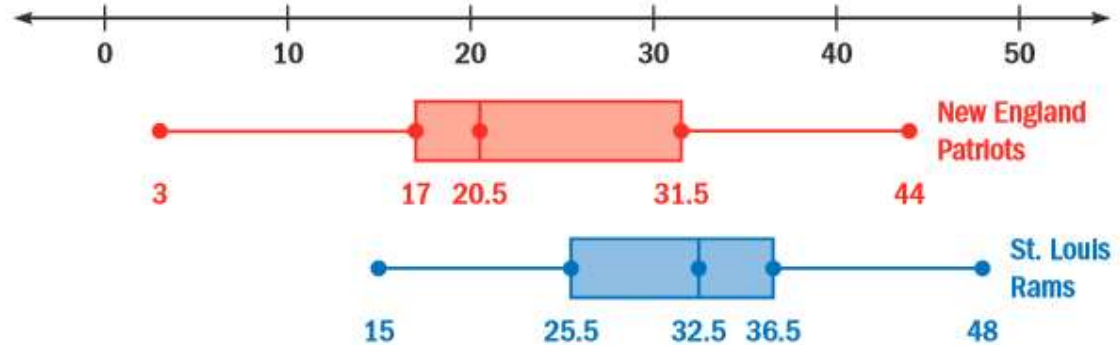
Entrance Question

Write your answer in the open space on your Box and Whisker HW

EXAMPLE 3 Comparing Box-and-Whisker Plots



The box and whisker plots below represent the teams' points scored in the 2001-2002 season.



- 1) What team has the greater interquartile range?
- 2) What is the difference in the medians?
- 3) What conclusions can be made from the data?

I can explain how an outlier affects measures of center.

What's a real-life example of an **outlier**?

I can explain how an outlier affects measures of center.

Outlier's Effect on Measures of Center

Group 1: Find the **mean** with and without the outlier.

With: _____ Without: _____ Difference: _____

Group 2: Find the **median** with and without the outlier.

With: _____ Without: _____ Difference: _____

Group 3: Find the **mode** with and without the outlier.

With: _____ Without: _____ Difference: _____

I can explain how an outlier affects measures of center.

Which measure of center is affected most?

8, 16, 16, 14, 10, 32, 9

Group 1: Find the **mean** with and without the outlier.

With: _____ Without: _____ Difference: _____

Group 2: Find the **median** with and without the outlier.

With: _____ Without: _____ Difference: _____

Group 3: Find the **mode** with and without the outlier.

With: _____ Without: _____ Difference: _____

I can explain how an outlier affects measures of center.

Outlier's Effect on Measures of Center

8, 16, 16, 14, 10, 32, 9

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With: _____ Without: _____ Difference: _____

I can explain how an outlier affects measures of center.

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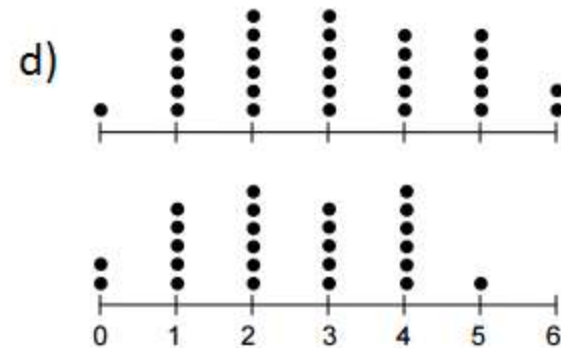
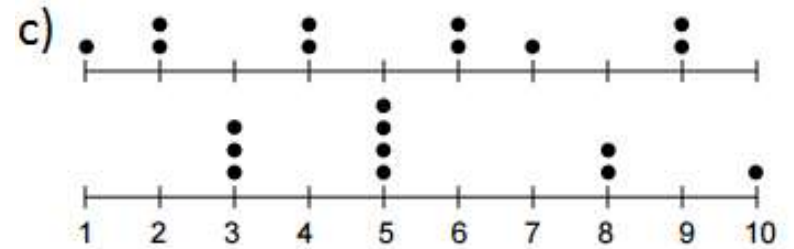
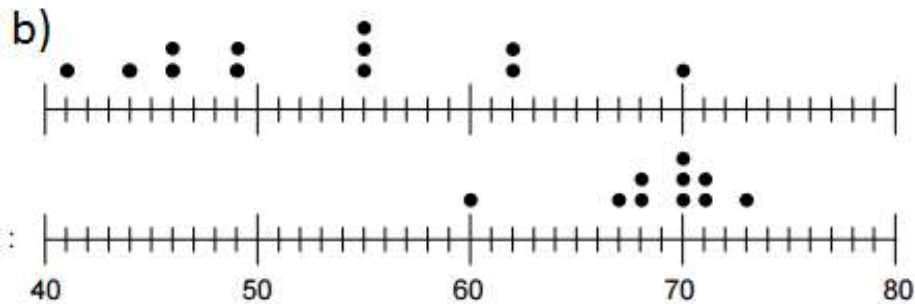
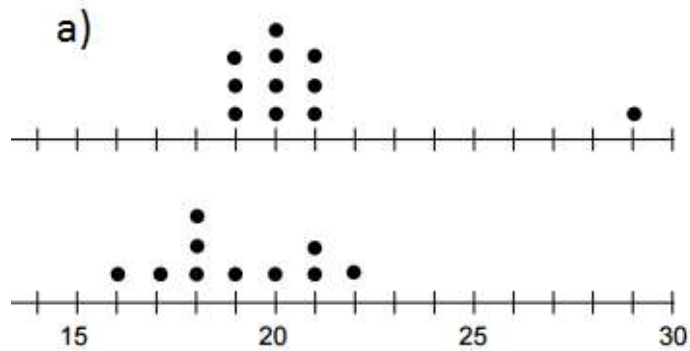
Group 3: Find the **mode** with and without the outlier.

With: _____ Without: _____ Difference: _____

I can display and compare data using visual representations.

Visual Overlap (Example 1 in Notes)

1) Which set of dot plots has the most visual overlap?



I can display and compare data using visual representations.

Visual Overlap (Example on Next Page of Notes)

Exercises: Copy the box plots and color the part that overlaps. Describe the degree of overlap between the two data sets as high overlap, small overlap, or no overlap.

