Activity: Who is better at texting, boys or girls?

State your prediction to the above question. Who is better at texting, boys or girls? WHY?

DIRECTIONS:

Partner 1: __________________________ Partner 2: __________________________

Partner 1 will text first, Partner 2 will time. Then switch.

MISSION: Text the following phrase including punctuation in the fastest time with ZERO mistakes. If you make a mistake you must start again. You will complete a total of 3 trials. (Each trial must be done perfectly without any mistakes to count.)

Standard deviation is a measure of spread. It shows us the average distance each data point is from the mean. It is so awesome that my teacher, Mrs. Brattebo, taught us about this!

Record your time in seconds in the chart below. Round to the nearest second.

<table>
<thead>
<tr>
<th>Partner 1</th>
<th>Time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial Number</td>
<td>1</td>
</tr>
<tr>
<td>Partner 1</td>
<td></td>
</tr>
<tr>
<td>Partner 2</td>
<td>Time (seconds)</td>
</tr>
<tr>
<td>Trial Number</td>
<td>1</td>
</tr>
</tbody>
</table>

Record the class data in the following table.

<table>
<thead>
<tr>
<th>BOYS</th>
<th>GIRLS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRIAL 1</strong></td>
<td><strong>TRIAL 2</strong></td>
</tr>
<tr>
<td>46</td>
<td>85</td>
</tr>
<tr>
<td>78</td>
<td>51</td>
</tr>
<tr>
<td>50</td>
<td>139</td>
</tr>
<tr>
<td>60</td>
<td>44</td>
</tr>
<tr>
<td>50</td>
<td>54</td>
</tr>
<tr>
<td>111</td>
<td>122</td>
</tr>
<tr>
<td>94</td>
<td>101</td>
</tr>
<tr>
<td>59</td>
<td>53</td>
</tr>
<tr>
<td>78</td>
<td>68</td>
</tr>
</tbody>
</table>
Create 3 boxplots for each gender based on the time of each trial. Answer questions below based on the boxplot.

**Times(s) – Boys**

**TRIAL 1:** MIN: ______ Q1: ______ Q2: ______ Q3: ______ MAX: ______ OUTLIERS: ______________

**TRIAL 2:** MIN: ______ Q1: ______ Q2: ______ Q3: ______ MAX: ______ OUTLIERS: ______________

**TRIAL 3:** MIN: ______ Q1: ______ Q2: ______ Q3: ______ MAX: ______ OUTLIERS: ______________

**Times(s) – Girls**

**TRIAL 1:** MIN: ______ Q1: ______ Q2: ______ Q3: ______ MAX: ______ OUTLIERS: ______________

**TRIAL 2:** MIN: ______ Q1: ______ Q2: ______ Q3: ______ MAX: ______ OUTLIERS: ______________

**TRIAL 3:** MIN: ______ Q1: ______ Q2: ______ Q3: ______ MAX: ______ OUTLIERS: ______________
Times(s) – Boys

TRIAL 1: Mean: _______ Median: _______ Standard Deviation: _______ Shape: ________________
TRIAL 2: Mean: _______ Median: _______ Standard Deviation: _______ Shape: ________________
TRIAL 3: Mean: _______ Median: _______ Standard Deviation: _______ Shape: ________________

Times(s) – Girls

TRIAL 1: Mean: _______ Median: _______ Standard Deviation: _______ Shape: ________________
TRIAL 2: Mean: _______ Median: _______ Standard Deviation: _______ Shape: ________________
TRIAL 3: Mean: _______ Median: _______ Standard Deviation: _______ Shape: ________________

Interpreting Results:

1) If your data is SKEWED by an outlier, the best measure of CENTER to use is the MEDIAN.
   a) Should you use the BOYS mean or median for time of texts?
   Trial 1 ____________________ Trial 2 ____________________ Trial 3 ____________________
   b) Should you use the GIRLS mean or median for time of texts?
   Trial 1 ____________________ Trial 2 ____________________ Trial 3 ____________________

2) The SMALLER the standard deviation the CLOSER the data is. Who had the most consistent (low standard deviation) texting time? (BOYS OR GIRLS?)
   Trial 1 ____________________ Trial 2 ____________________ Trial 3 ____________________

3) How do you think the number of trials affect the texting time? Why or why not?

THE BEST TEXTING GROUP (WINNER) WILL HAVE ALL OF THE FOLLOWING:
LOWEST MEASURE OF CENTER FOR TIME FOR THE MOST TRIALS
THE SMALLER STANDARD DEVIATION FOR TIME FOR THE MOST TRIALS

Declare the winning group here (at least the best 2 trials out of 3) ____________________

5) Did this match your earlier prediction?
Using a calculator, calculate the mean, standard deviation, 5 number summary of the data, and prove/state any outliers.

1. The data set below gives the prices (in dollars) of cordless phones at an electronics store.
   35, 50, 60, 60, 75, 65, 80

2. The data set below gives the numbers of home runs for the 10 batters who hit the most home runs during the 2005 Major League Baseball regular season.
   51, 48, 47, 46, 45, 43, 41, 40, 40, 39

3. The data set below gives the waiting times (in minutes) of several people at a department of motor vehicles service center.
   11, 7, 14, 2, 8, 13, 3, 6, 10, 3, 8, 4, 8, 4, 7

4. The data set below gives the calories in a 1-ounce serving of several breakfast cereals.
   135, 115, 120, 110, 110, 100, 105, 110, 125