Mrs. Daniel- AP Stats

2.1 WS

1. The stemplot below shows the number of wins for each of the 30 Major League Baseball teams in 2009.

```
5 | 9
6 | 2455
7 | 00455589
8 | 0345667778
9 | 123557
10| 3
```

*Key: 5|9 represents a team with 59 wins.*

Find the percentiles for the following teams:

(a) The Colorado Rockies, who won 92 games.
(b) The New York Yankees, who won 103 games.
(c) The Kansas City Royals and Cleveland Indians, who both won 65 games.

2. Here is a table showing the distribution of median household incomes for the 50 states and the District of Columbia. Calculate the relative frequency and cumulative relative frequency.

<table>
<thead>
<tr>
<th>Median Income ($1000s)</th>
<th>Frequency</th>
<th>Relative Frequency</th>
<th>Cumulative Frequency</th>
<th>Cumulative Relative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 to &lt; 40</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>40 to &lt; 45</td>
<td>10</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>45 to &lt; 50</td>
<td>14</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>50 to &lt; 55</td>
<td>12</td>
<td></td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>55 to &lt; 60</td>
<td>5</td>
<td></td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>60 to &lt; 65</td>
<td>6</td>
<td></td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>65 to &lt; 70</td>
<td>3</td>
<td></td>
<td>51</td>
<td></td>
</tr>
</tbody>
</table>
3. Use the cumulative relative frequency graph for the state income data to answer each question.

(a) At what percentile is California, with a median income of $57,445?

(b) Estimate and interpret the first quartile of this solution.

4. Miami-Dade County Public Schools employs teachers at salaries between $40,000 and $71,000. The teachers’ union and the school board are negotiating the form of next year’s increase in the salary schedule.

(a) If every teacher is given a flat $1000 raise, what will this do to the mean salary? To the median salary? Explain your answers.

(b) What would a flat $1000 raise do to the extremes and quartiles of the salary distribution? To the standard deviation of teachers’ salaries? Explain your answers.