(1) (Sp 06) On the boxplots given below, exactly what does the value 9.37 refer to on the boxplot for compound 2? (How was the upper end of the line determined?)

![Boxplots showing compound 1 and compound 2](image)

(2) (Fall 2006) The breaking strengths of six samples are

8577 9471 9011 7583 8572

(a) Find the third quartile, Q(0.75). You can leave your answer as an unsimplified numerical expression.

(b) The sample average of these values is 8643. Write an unsimplified numerical expression for the sample standard deviation. You do not have to find the final value.

(3) Name 2 types of plots that use quantiles in some way.

(4) The third quartile corresponds to the \( \_\_\_ \text{th} \) percentile. (Fill in the blank.)

(5) We are investigating resistivity of wire under 2 different temperatures. We have several pieces of wire. For each piece we measure resistivity twice, once at 70 degrees and once at 0 degrees. What are 2 ways we could plot these data effectively?
(6) (Fall 2007) (Also includes chapter 1 material.)
(a) We are interested in the thickness of wallboard after drying. Explain briefly the distinction between the population mean and the sample mean thickness.

(b) As part of a student project students measured the thickness of 6 wallboards measuring each wallboard twice, once before and once after drying.

<table>
<thead>
<tr>
<th>Board</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before drying</td>
<td>0.514</td>
<td>0.505</td>
<td>0.500</td>
<td>0.490</td>
<td>0.503</td>
<td>0.500</td>
</tr>
<tr>
<td>After drying</td>
<td>0.510</td>
<td>0.502</td>
<td>0.493</td>
<td>0.486</td>
<td>0.497</td>
<td>0.494</td>
</tr>
</tbody>
</table>

Plot these data in a particularly informative way.

(7) (Fall 2007) For the numbers 13 7 10 12 3 6
(a) Find the third quartile Q(0.75)
(b) Write an unsimplified numerical expression for the sample standard deviation.