Lesson 1.06
Absolute Value Equations and Inequalities

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute Value</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fill in the blanks for the following statements. The word choices are listed below.

An absolute value equation has _______ solution(s) when it equals a _________ number.

An absolute value equation has _______ solution(s) when it equals a _________ number.

An absolute value equation has _______ solutions(s) when it equals a _________ number.

Zero          One        Two
Positive      Negative   Neither a Positive or Negative

Write each step that is used to solve the following equation.

\[ |2x + 1| - 9 = 4 \]

\[ |2x + 1| = 13 \]

\[ 2x + 1 = 13 \quad \text{and} \quad 2x + 1 = -13 \]

\[ 2x = 12 \quad \text{and} \quad 2x = -14 \]

\[ x = 6 \quad \text{and} \quad x = -7 \]

Fill in the Blanks to Complete Each Statement

Absolute value inequalities are a ________________ of solutions on the number line.

Greater than and less than symbols have ________________ circles.

Greater than or equal to and less than or equal to have ________________ circles.

Greater than and greater than or equal to have arrows pointing towards the ________________.
Less than and less than or equal to have arrows pointing towards the ____________.

Solve and graph the following absolute value inequality.

1. Isolate the absolute value.  
   ______________________________

2. Create two separate inequalities.  
   ___________  ___________

3. Solve Each Inequality.  
   ___________  ___________

4. Graph the Solution.