Chapter 3 – Parallel and Perpendicular Lines

Chapter 3:

- Compare the differences between parallel and perpendicular lines.
- Design and solve a problem dealing with parallel lines with a transversal.
- Using real world models describe how you find the slope of a line.
Standard 3.1

Compare the differences between parallel and perpendicular lines.

Task: Create two real world models depicting the difference between parallel and perpendicular lines. (Make sure one model is for parallel lines and one is for perpendicular lines. Also, make sure to explain in your own words the differences as well.)

Rubric

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td>Did not create a model</td>
<td>Model was created with haste, little</td>
<td>Model was created, some effort was</td>
<td>Model is created with great effort</td>
</tr>
<tr>
<td>Parallel</td>
<td></td>
<td>effort was given OR no tie to the real</td>
<td>effort was given AND a small relevance</td>
<td>AND a good tie to the real world</td>
</tr>
<tr>
<td></td>
<td></td>
<td>world</td>
<td>to the real world</td>
<td></td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td>Did not create a model</td>
<td>Model was created with haste, little</td>
<td>Model was created, some effort was</td>
<td>Model is created with great effort</td>
</tr>
<tr>
<td>Perpendicular</td>
<td></td>
<td>effort was given OR no tie to the real</td>
<td>effort was given AND a small relevance</td>
<td>AND a good tie to the real world</td>
</tr>
<tr>
<td></td>
<td></td>
<td>world</td>
<td>to the real world</td>
<td></td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>Did not explain the models</td>
<td>Only explained one model</td>
<td>Explained both models</td>
<td>Explained both models with a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>good analysis of the differences</td>
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</table>
Standard 3.2

Design and solve a problem dealing with parallel lines with a transversal.

Task: Create a real world problem involving a set of parallel lines with a transversal cutting them and solve it. Make sure to have a good description of the problem.

Rubric

<table>
<thead>
<tr>
<th>Created problem</th>
<th>0</th>
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</thead>
<tbody>
<tr>
<td>Did not create a problem</td>
<td>Problem was missing either parallel lines or a Transversal</td>
<td>Problem was too easy, or too hard but included all of the pieces</td>
<td>Problem was a well constructed moderate problem with all of the required pieces.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Solution</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution was Incorrect</td>
<td>Solution was correct</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No description was given for the problem</td>
<td>Description was given but not a real world.</td>
<td>Description was given but did not state enough information to solve</td>
<td>Description was both well written with good information AND real world</td>
<td></td>
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</tbody>
</table>
Standard 3.3

Using real world models describe how you find the slope of a line.

**Task:** Create a set of stairs and present on how builders find the slope of it.

**Rubric**

<table>
<thead>
<tr>
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<th>3</th>
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</thead>
<tbody>
<tr>
<td><strong>Creation of the stairs</strong></td>
<td>No model was made</td>
<td>Model was made but created very sloppy, no constant slope</td>
<td>Model was made with moderate effort, slope differed a bit</td>
<td>Model was made with good effort and stairs had a constant rate of change</td>
</tr>
<tr>
<td><strong>Explanation of how builders find the slope</strong></td>
<td>No explanation on how to find slope</td>
<td>Explanation was given but it had little to do with how builders find the slope</td>
<td>Explanation was knowledgeable and slope was found but there was little information on how builders find it.</td>
<td>Explanation was perfect! Good description on how to find slope and how builders find slope.</td>
</tr>
<tr>
<td><strong>Presentation</strong></td>
<td>No Presentation</td>
<td>Presentation had little to do with the model and builders</td>
<td>Presentation was ok but missing information on how builders find the slope</td>
<td>Presentation was very good and informative on how builders find the slope</td>
</tr>
</tbody>
</table>