MiSP Plate Tectonics Worksheet #3 – Assessment L1

Name _______________________________              Date________________

L1-3

Base your answers to questions 1 - 3 on the diagram below which shows an enlargement of
the mid-Atlantic ridge and surrounding area in its position between the continents.
Magnetic polarity bands are shown. You will need a ruler and calculator for question 3.

1. What would be the age in millions of years of an ocean floor rock found 20 kilometers
west of the ocean ridge?

____________________ million years

2. ______ Multiple choice - From point A to point B, what happens to the relative age of
the rocks?
   A. continuously decrease from A to B
   B. continuously increase from A to B
   C. decreases from A to the mid-Atlantic ridge and then increases to B
   D. increases from A to the mid-Atlantic ridge and then decreases to B
3. What is the average rate of sea floor movement (centimeters per year or cm/year) from the mid-Atlantic ridge to point B. Remember that there are 100,000 cm in a km and to find the rate per year, you will have to multiply the millions of years by 1,000,000. Show all work.

Rate from mid-Atlantic ridge to point B = ________________________ cm/year

4. The Hawaiian Islands vary in age from Maui (1 million years old) to Kauai (5 million years old). How does the theory of plate tectonics explain the different ages of the Hawaiian Islands?

___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

5 (L1) 5-6 (L2) 5-8 (L3) This chart is data from the Plate Tectonics unit’s Worksheet #1 - SEA FLOOR SPREADING. It lists the age and distance of rocks from the mid-Atlantic ridge. The data is graphed on the next page.

<table>
<thead>
<tr>
<th>Age of sea-floor (millions of years)</th>
<th>Actual Distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>200</td>
</tr>
<tr>
<td>38</td>
<td>650</td>
</tr>
<tr>
<td>53</td>
<td>900</td>
</tr>
<tr>
<td>63</td>
<td>1,200</td>
</tr>
<tr>
<td>81</td>
<td>1,650</td>
</tr>
<tr>
<td>135</td>
<td>2,800</td>
</tr>
<tr>
<td>155</td>
<td>3,250</td>
</tr>
</tbody>
</table>
5. Using the graph, at what distance from the mid-Atlantic Ridge would rocks be found that are -

120 million years old? ________________________________

160 million years old? ________________________________