5. [9 points] The graph of a portion of \( y = h(x) \) is shown below.

Note: The portion of the graph of \( h(x) \) between \( x = 4 \) and \( x = 5 \) is part of a circle of radius 1 centered at the point \((5,0)\).

Let \( H(x) \) be the continuous antiderivative of \( h(x) \) with \( H(0) = 2 \).

a. Complete the following table with the exact values of \( H(x) \).

<table>
<thead>
<tr>
<th>( x )</th>
<th>-5</th>
<th>-4</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H(x) )</td>
<td>-1</td>
<td>-0.5</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>-1</td>
<td>-2</td>
<td>-2 + ( \frac{\pi}{4} )</td>
</tr>
</tbody>
</table>

b. On the axes below, sketch the graph of \( y = H(x) \). Be sure that you pay close attention to each of the following:

- where \( H(x) \) is and is not differentiable
- the values of \( H(x) \) from the table above
- the sign of \( H(x) \), where \( H(x) \) is increasing/decreasing/constant, and the concavity of \( H(x) \)