11. [10 points] The graph of a portion of \( y = k(x) \) is shown below. Note that for \( 3 < x < 5 \), the graph of \( k(x) \) is a portion of the graph obtained by shifting \( y = x^2 \) three units to the right.

![Graph of y = k(x)](image)

Let \( K(x) \) be the continuous antiderivative of \( k(x) \) passing through the point \((-1, 1)\).

a. [5 points] Use the graph to complete the table below with the exact values of \( K(x) \).

<table>
<thead>
<tr>
<th>( x )</th>
<th>(-5)</th>
<th>(-3)</th>
<th>(-1)</th>
<th>(1)</th>
<th>(3)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( K(x) )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. [5 points] On the axes below, sketch a detailed graph of \( y = K(x) \) for \(-5 < x < 5\). Be sure that you pay close attention to each of the following:

- where \( K(x) \) is and is not differentiable,
- the values of \( K(x) \) you found in the table above,
- where \( K(x) \) is increasing/decreasing/constant, and the concavity of \( K(x) \).