5. [8 points] The graph of the function \( f \) defined on the domain \([0, 4]\) is drawn below in Figure A.

\[ y = f(x) \]

\[ y = f^{-1}(x) \]

Figure A

Figure B

a. [4 points] Sketch the graph \( y = f^{-1}(x) \) in Figure B.

b. [4 points] Write down a piecewise formula for the function \( f \).

\[
f(x) = \begin{cases} \text{ } & \text{ } \\
\text{ } & \text{ } \\
\end{cases}
\]

6. [6 points] Let \( g \) be a function defined on the real line. Some values of \( g \) are shown below.

<table>
<thead>
<tr>
<th>( x )</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>( g(x) )</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

a. [2 points] If \( g \) were an odd function, what should the value of \( g(-1) \) be?

\( g(-1) = \) ________________

b. [2 points] If \( g \) were a periodic function of period 5, what should the value of \( g(-3) \) be?

\( g(-3) = \) ________________

c. [2 points] Let \( k \) be the function defined by \( k(x) = g(2x + 5) \). What is \( k(-1) \)?

\( k(-1) = \) ________________