8. [12 points] Use the following graph and table to calculate the integrals below.

The table below gives several values of a differentiable function $f$ and its derivative $f'$. Assume that both $f(x)$ and $f'(x)$ are positive and continuous.

<table>
<thead>
<tr>
<th>$x$</th>
<th>$-2$</th>
<th>$-1$</th>
<th>0</th>
<th>1</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$f(x)$</td>
<td>0.5</td>
<td>3</td>
<td>4</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>$f'(x)$</td>
<td>2</td>
<td>0.5</td>
<td>5</td>
<td>2</td>
<td>22</td>
</tr>
</tbody>
</table>

You are not required to show your work on this problem. However, limited partial credit may be awarded based on work shown.

Let $g$ be the piecewise linear function with graph shown below.

For each of parts a.-c. below, find the exact value of the given quantity. If there is not enough information provided to find the exact value, write “NOT ENOUGH INFO.”

All your answers must be in \textbf{exact} form.

\begin{itemize}
  \item[a.] [4 points] Find $\int_{3}^{4} tg'(t) \, dt$.
  
  Answer: 

  \item[b.] [4 points] Find $\int_{-1}^{1} \frac{2f'(2x + 1)}{f(2x + 1)} \, dx$.

  Answer: 

  \item[c.] [4 points] Find $\int_{1}^{3} \frac{f'(x)(7f(x) + 11)}{(f(x) + 1)(2f(x) + 4)} \, dx$.

  Answer: 
\end{itemize}