**5.*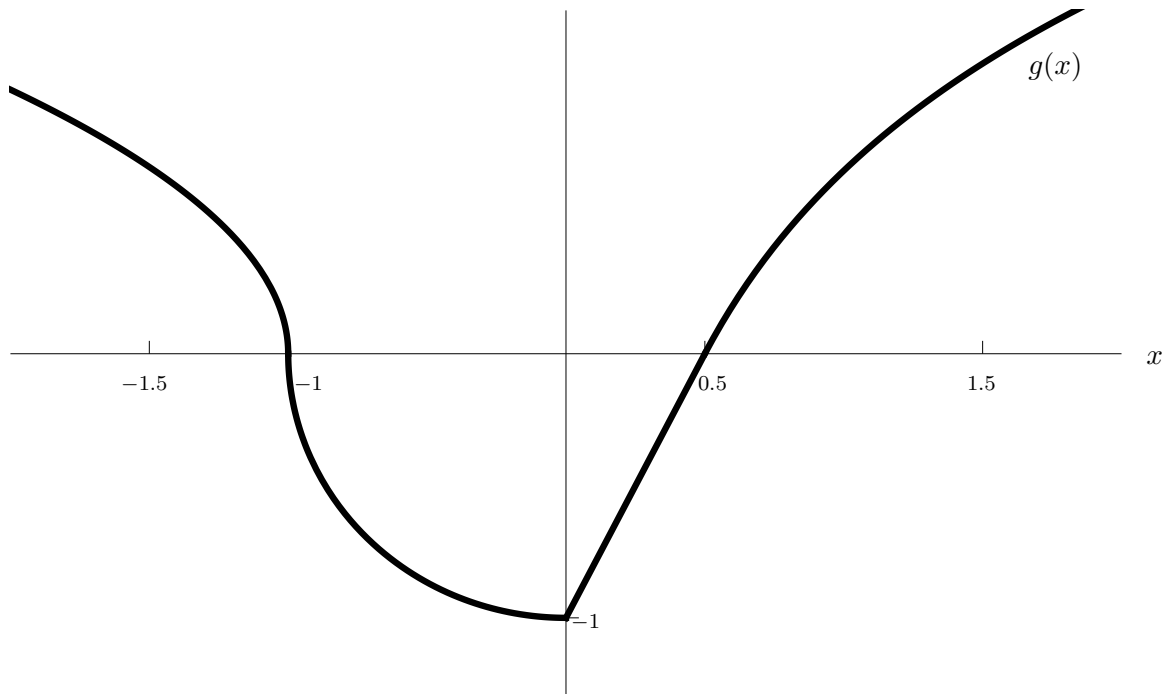* [11 points] A function $g(x)$ is graphed below. The curve forms a quarter circle between $x = -1$ and $x = 0$ and a line between $x = 0$ and $x = 0.5$

On the axes below, sketch a well-labeled graph of $f(x)$, an antiderivative of $g(x)$, satisfying $f(0) = -1$. Be sure to label the coordinates of $f(x)$ at $x = -1$ and $x = 0.5$.