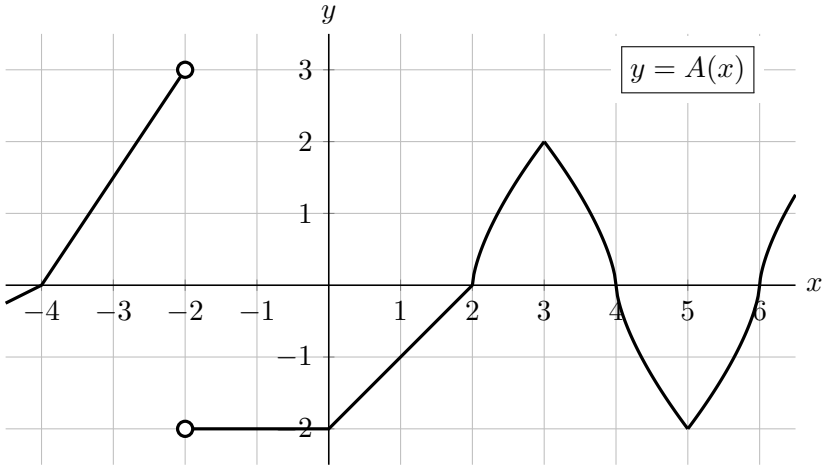
3. [10 points] A portion of the graph of a function $A(x)$ is shown below. Note that the part of the graph on the interval $[4, 6]$ can be obtained from the part of the graph on the interval $[2, 4]$ by shifting it two units to the right and reflecting it over the x-axis.



Let $B(x)$ be the continuous antiderivative of $A(x)$ passing through the point $(-1, 1)$.

a. [5 points] Use the graph above to complete the table below with the **exact** values of $B(x)$.

x	-4	-2	-1	0	2	6
$B(x)$	0	3	1	-1	-3	-3

b. [5 points] On the axes below, sketch a detailed graph of $y = B(x)$ for $-4 \le x \le 6$. Be sure that you pay close attention to each of the following:

- where $B(x)$ is and is not differentiable,
- the values of $B(x)$ you found in the table above and at local extrema of B,
- where $B(x)$ is increasing/decreasing/constant, and the concavity of $B(x)$.