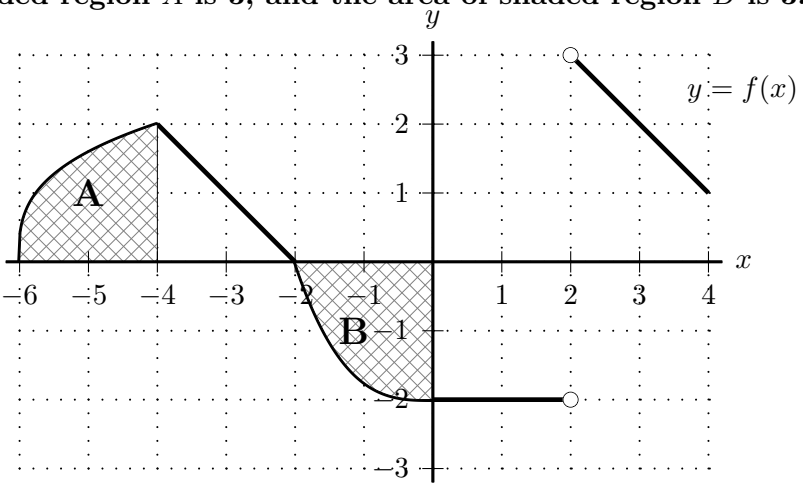
4. [10 points] A portion of the graph of $y = f(x)$ is shown below.
The area of shaded region A is 3, and the area of shaded region B is 3.



Let $F(x)$ be the continuous antiderivative of $f(x)$ with $F(0) = 1$ whose domain includes the interval $-6 \le x \le 4$.

a. [3 points] For what value(s) of x with $-6 < x < 4$ does $F(x)$ have local extrema?
If there are none of a particular type, write NONE. You do not need to justify your answers.

Answer: local max(es) at $x =$ -2

Answer: local min(s) at $x =$ 2

b. [7 points] Recall that $F(x)$ is the continuous antiderivative of $f(x)$ with $F(0) = 1$. On the axes below, draw the graph of $y = F(x)$ on the interval $-6 \le x \le 4$.
Be sure that you pay close attention to each of the following:

- the value of $F(x)$ at each of $x = -6, -4, -2, 0, 2, 4$
- where F is/is not differentiable
- where F is increasing/decreasing/constant
- the concavity of the graph of $y = F(x)$