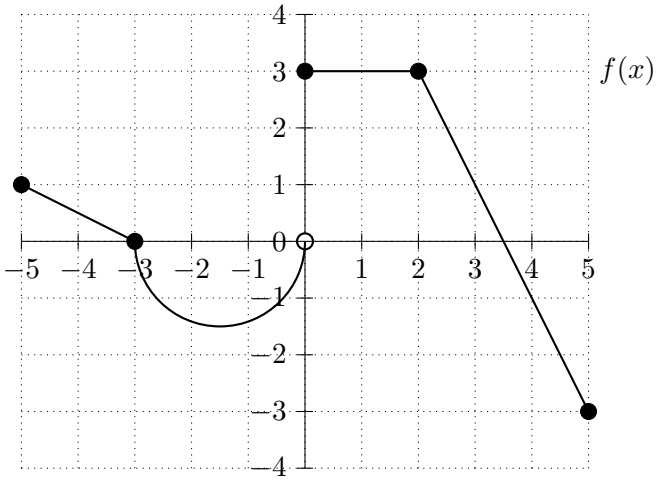
2. [15 points] Below is a graph of the function $f(x)$, comprised of line segments and a semicircle. Let $F(x)$ be an anti-derivative of $f(x)$ with $F(2) = 3$.



a. [4 points] Find both coordinates of the points where $F(x)$ attains its maximum and minimum values on the interval $-5 \leq x \leq 5$. No explanation is necessary.

Min:(_____, _____) **Max:** (_____,_____)

b. [4 points] Find all values of x where $F(x)$ is concave down. Write your answer in the space provided. No explanation is necessary.

_____

c. [7 points] Carefully sketch a graph of $F(x)$ on the axes provided below. Be sure to clearly indicate continuity and differentiability in your graph.