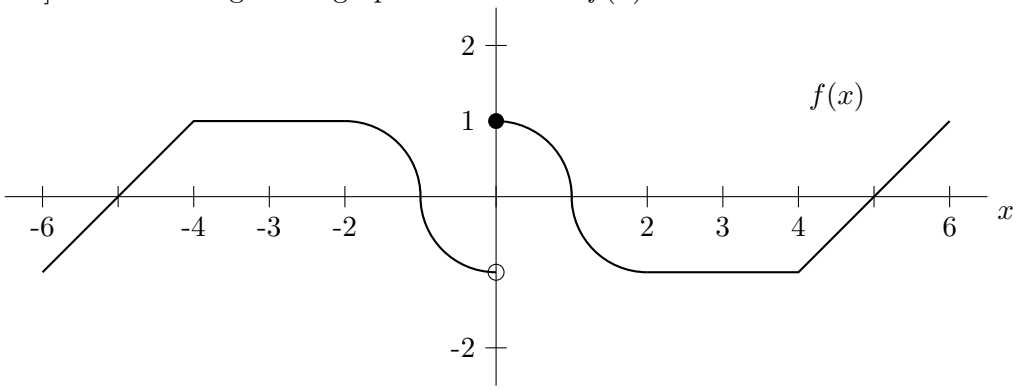
2. [12 points] The following is the graph of a function $f(x)$.



Note that the graph of $f(x)$ is a quarter of a circle on each of the intervals $[-2,-1], [-1,0], [0,1], [1,2]$ and linear on each of the intervals $[-6,-4], [-4,-2], [2,4], [4,6]$.

Let $F(x)$ be a function satisfying:

- $F(0) = 0$.
- $F'(x) = f(x)$ for $-6 < x < 0$ and $0 < x < 6$.

Carefully **sketch** a graph of $F(x)$ using the axes provided below. If there are features of $F(x)$ that are difficult for you to draw, indicate these on your graph. **Label** the x- and y-coordinates of the points on your graph of F at $x = -3$, $x = 1$ and $x = 5$.

Solution: