4. [15 points] On the axes below, part of the graph of a **continuous** function $f(x)$ is given. Suppose $f(x)$ has the following properties:

- $f(x)$ is **piecewise linear** on $[-3, 5]$.
- $\int_{-5}^{-3} f'(x)\,dx = \frac{3}{2}$.
- $\int_{-3}^{0} f(x)\,dx = 3$.
- $\int_{0}^{3} f'(x)\,dx = 2$.
- The average value of $f(x)$ on $[3, 5]$ is 1.

Sketch the rest of a possible graph of $f(x)$ on $[-5, 5]$, labeling all x and y intercepts. Label the x and y coordinates of the points on the graph at $x = 3, 5$, and also label the y coordinate of the point at $x = -5$. Be sure all other important features of your graph are clear.

Solution: One possible graph is shown below.