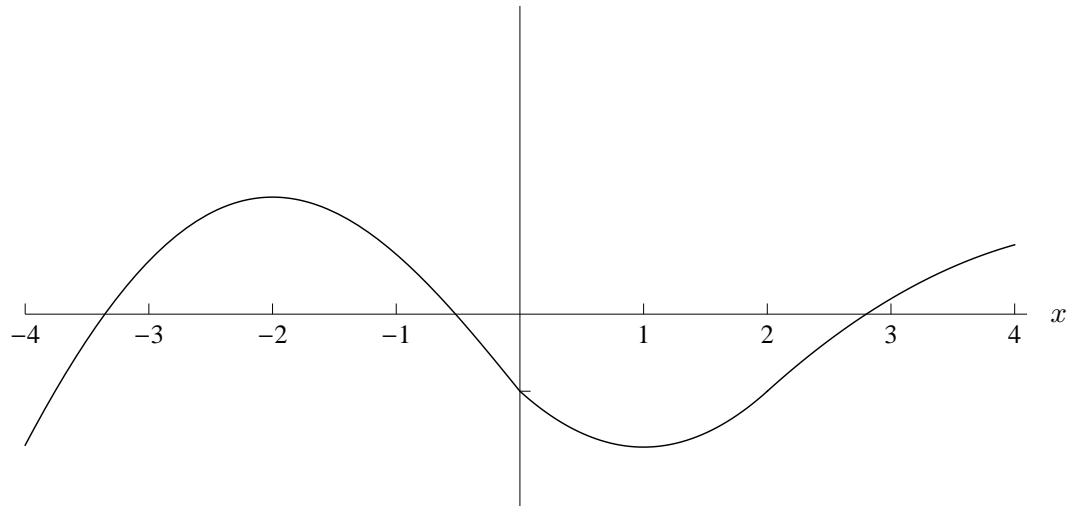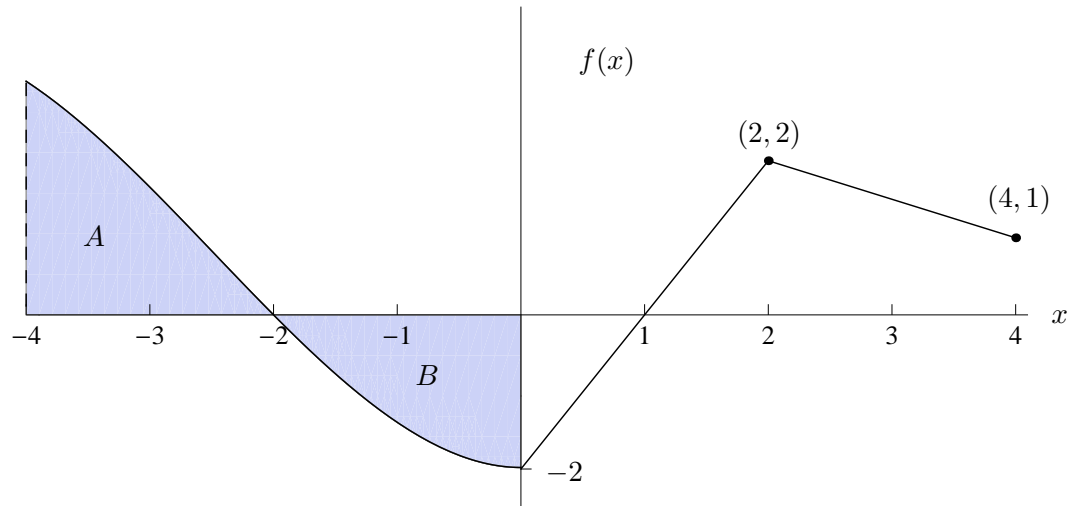**4.** [12 points] The graph of a function $f(x)$ is shown below. The area of shaded region A is 3.1 and the area of shaded region B is 2.2. On the axes provided, sketch a well-labeled graph of an antiderivative $F(x)$ of $f(x)$ satisfying $F(0) = -1$. Indicate the x- **and** y- coordinates of all critical points and inflection points of $F(x)$ in the space provided.

Coordinates of critical points: $(-2, 1.2), (1, -2)$

Coordinates of inflection points: $(0, -1), (2, -1)$