8. [10 points] A portion of the graph of a function \( h \) is shown below. The domain of \( h(x) \) includes the interval \(-1 \leq x \leq 5\).

Note the following:

- \( h(x) \) is linear on each of the intervals \([1, 2], [2, 3], \) and \([4, 5] \).
- The portion of the graph of \( y = h(x) \) for \(-1 < x < 1\) is symmetric across the \( y \)-axis.
- The area of shaded region \( A \) is \( \frac{4}{3} \).
- The area of shaded region \( B \) is \( \frac{13}{3} \).

Throughout this problem, the function \( H \) is the antiderivative of \( h \) satisfying \( H(1) = 2 \).

a. [2 points] For each of the following, compute the exact value. Show your work.
   i. \( H(-1) \)

   **Answer:** \( H(-1) = \) __________

   ii. \( H(2) \)

   **Answer:** \( H(2) = \) __________

b. [8 points] Use the axes below to carefully sketch a graph of \( y = H(x) \) for \(-1 \leq x \leq 5\).

- Clearly label the coordinates of the points on your graph at \( x = 0, 3, \) and \( 5 \).
- Be sure that local extrema and concavity are clear.
- If there are features of this function that are difficult for you to draw, indicate these on your graph.