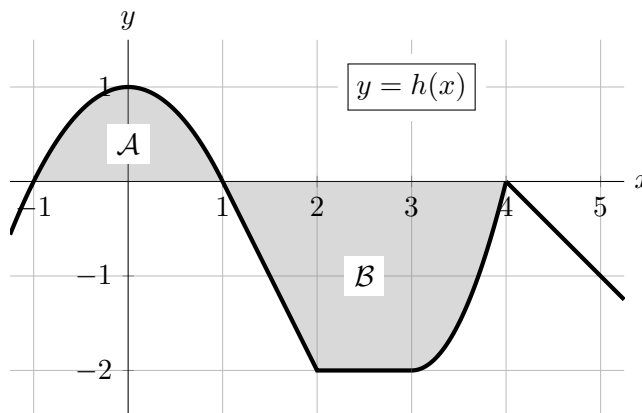


8. [10 points] A portion of the graph of a function h is shown below. The domain of $h(x)$ includes the interval $-1 \leq x \leq 5$.

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 \mathcal{A} is $4/3$.
- The area of shaded region \mathcal{B} is $13/3$.



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.

