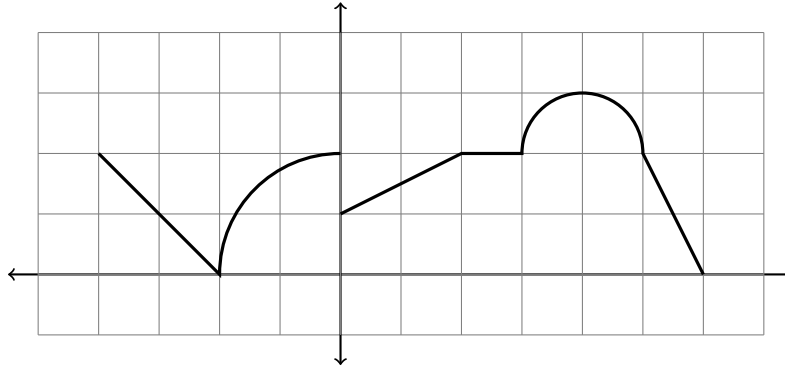Let $f(x)$ be the function graphed below.

- The part above $[-2, 0]$ is a quarter-circle with center (0,0) and radius 2.

- The part above $[3, 5]$ is a semi-circle with center (4,2) and radius 1.

Come up with 4 different integration questions you could ask about the function f. These questions should all be of the form "Compute $\int_a^b f(x)\ dx$" where you get to pick the limits a and b (which should be integers). You could also combine multiple integrals into a single question. In addition, you should have two questions where the answer contains π, and two where it does not, and at least one of your answers should be negative. For each of your questions, provide a full solution.