Quiz 5

Honor Code: On my honor, I have neither given nor received any aid during this examination.
Instruction: You are not allowed to use a calculator during this examination. You need to show all necessary steps to get credit. This document is **double-sided**.

Name: _____

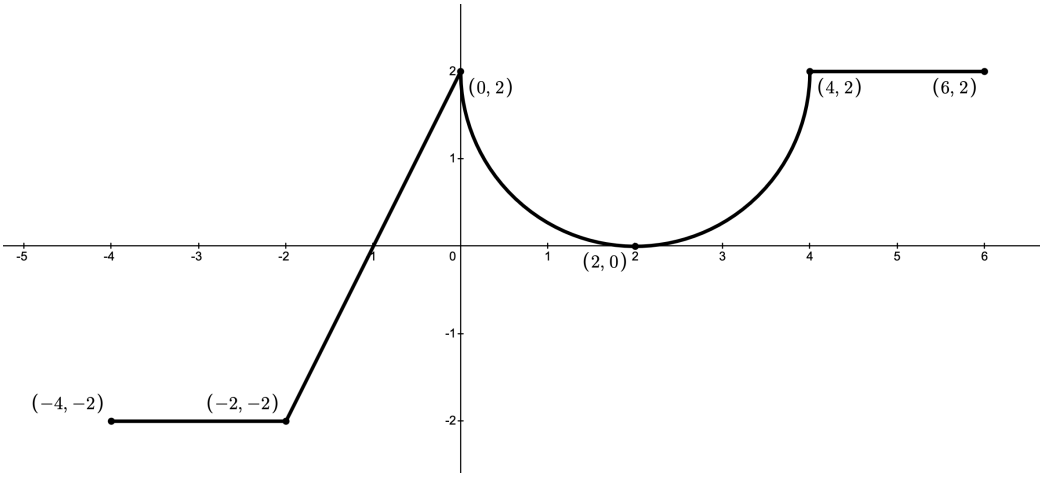
Problem 1

Evaluate the integrals.

1. $\int_0^3 x^2 + 3\,dx$

2. $\int_{-2}^0 \sqrt{4 - x^2} + x\,dx$ (Hint: View this as a signed area.)

Problem 2



The graph of $f(x)$ is given above. Define $g(x) = \int_0^x f(x)dx$. Answer the following questions:

1. Evaluate $g(-4)$.

   Answer: _____

2. Find all x's where the tangent line to $g(x)$ is flat.

   Answer: _____

3. Ignore the endpoints, find the local minimum (x-coordinate) of $g(x)$.

   Answer: _____

4. Find $g''(-1)$.

   Answer: _____