

The Definite Integral

Solutions should show all of your work, not just a single final answer.

1. Evaluate the integral $\int_1^4 (x + 1) dx$ by drawing a picture and interpreting the integral in terms of areas.
2. Evaluate the integral $\int_{-3}^3 (1 + \sqrt{9 - x^2}) dx$ by drawing a picture and interpreting the integral in terms of areas.
3. T/F (with justification) A definite integral can be negative.