

Math 170: Quiz 1

Sayan Mukherjee's discussion

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Problem 1. Find the following definite integral:

$$\int_{-1}^2 (x^3 - 2) dx$$

Solution. The antiderivative of $x^3 - 2$ is $x^4/4 - 2x$, and therefore the definite integral is

$$\frac{2^4}{4} - 2(2) - \left(\frac{(-1)^4}{4} - 2(-1) \right) = \frac{16}{4} - 4 - \left(\frac{1}{4} + 2 \right) = -\frac{9}{4}.$$

Rubric.

- +3 points for correct antiderivative
- +1 point for correct expression after plugging in
- +1 point for correct answer

So if a student makes sign errors, subtract only 1 point as that messes up the calculations.