MAT 21B, Winter 2023
Homework 4

Due before 2:00pm on Wednesday, February 15

Please write the homework solutions in connected sentences and explain your work. Mark the answers to each question. Scan or take pictures of your homework and upload it to Gradescope before due time.

1. Find the length of the curve $y = \ln x - \frac{x^2}{8}$ from $x = 1$ to $x = 2$.

2. Find the area of the surface generated by revolving the curve $y = x^3,\ 0 \le x \le 2$ around the x-axis.

Compute the following integrals:

3.
$$\int \frac{dx}{x - \sqrt{x}}$$

4.
$$\int \frac{dx}{x^2 - 4x + 5}.$$