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MATH F252, Dr. J. Gimbel
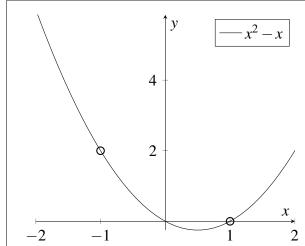Homework Set I, Due Monday, January 23rd, 2023

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1. Suppose $f(x) = x^2 - x$ what is the average value of f on [-1,1]?

$$\overline{f} = \frac{1}{b-a} \int_a^b f(x)\mathrm{d}x$$

$$\overline{f} = \frac{1}{1-(-1)} \int_{-1}^1 (x^2 - x)\mathrm{d}x$$

2. Evaluate $2 + 4 + 6 + \cdots + 100$.

3. Evaluate $\int (7 + e^x)^5 e^x \mathrm{d}x$

4. Evaluate $\int_{-1}^1 (3 + x)^4 \mathrm{d}x$