

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [4 points] Compute the integral $\int \frac{x^5 - x^2 e^{7x} + x - 1}{x^2} dx$.

2. [4 points] Sketch the region trapped between the graph of $f(x) = 4 - x^2$ and the x -axis and find its exact area.

3. [4 points] Find the average value of the function $f(x) = \frac{3}{x}$ on the interval $[\frac{1}{e}, e]$. Please, provide an exact expression (without decimals).