EXAM 4 - MATH 112 YOUR NAME:

Read each problem **very carefully** before starting to solve it. Each problem is worth 10 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. During an auto sales event, cars are selling at the rate of $\frac{12}{x+1}$ cars per day, where x is the number of days since the sales began. How many cars will be sold during the first 7 days of the sales?

2. Find the area of the region that is trapped between the graphs of $f(x) = x^2 - 2$ and g(x) = x.

3. After x months the water level in a newly built reservoir is $L(x) = \frac{60x}{\sqrt{x^2 + 16}}$ in feet. Find the average depth during the first 3 months.

4. Compute the definite integral $\int_{1}^{2} \frac{(\ln x)^{6}}{x} dx$.

5. Compute the indefinite integral $\int 2x e^{5x} dx$