

Quiz One**Lecture:** 8:30
 9:30**SI:** Alex Ashley
 Avni Becca
 Jason Matt**No notes. Calculators are allowed.**

Write clearly and explain your reasoning.

1 (5 points) Evaluate the indefinite integral $\int x^3 (x^4 - 7)^{12} dx$.

2 (5 points) Evaluate the indefinite integral $\int \frac{2x + 1}{3x^2 + 3x - 4} dx$.

3 (5 points) In 2007, there were 340 students in a particular school district. Research indicates that the district expects this number will increase at a rate of $4t + 15$, where t is the number of years since 2007. Estimate the number of students in the district in 2011.

4 (5 points) The depreciation rate of a new car follows the equation $V'(t) = -3000e^{-0.6t}$ where $V(t)$ is the value of the car and t years after purchase. If the car cost \$24,000 new, what is the value of the car after 4 years?