NAME:

Show ALL your work CAREFULLY.

(a) Use the technique of integration by parts to find the following definite integral
\[ \int_0^1 xe^{-x} \, dx. \]

(b) Use the technique of partial fractions to evaluate the following indefinite integral.
\[ \int \frac{2x + 1}{x^2 - 7x + 12} \, dx \]