Extra Credit Assignment, Section 222-009, Fall 2001

DUE: December 10, 2001

1) Do the following problems from the textbook: # 21 (Section 1.7), # 28 (Section 3.2), # 16 (Section 5.2, solve this problem with both the Method of Elimination **and** the Laplace Transform).

2) Find $\lim_{t\to\infty} \frac{x_2(t)}{x_1(t)}$ if $x_1(t)$ and $x_2(t)$ satisfy the system

$x_1' = -2x_1 + x_2$

$x_2' = -5x_1 + 4x_2$

with initial conditions $x_1(0) = 1,\ x_2(0) = 3$.