KFUPM/ Department of Mathematics & Statistics MATH 260-04/ 141/ Quiz 4

Name: ID#: Serial#:

1. Solve the system Y' = AY where  $A = \begin{bmatrix} 2 & 1 \\ -4 & 2 \end{bmatrix}$  and  $Y = \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$ .

2. Solve the system Y' = AY where  $A = \begin{bmatrix} -1 & 0 & 1 \\ 0 & -1 & 1 \\ 1 & -1 & -1 \end{bmatrix}$ , given that A has eigenvalue  $\lambda = -1$  with multiplicity 3.