KFUPM/ Department of Mathematics & Statistics ID # Serial #
MATH 202-03/ Quiz 4/ 123 Name

1. [5pts] Find the general solution of $X' = \begin{pmatrix} 6 & -1 \\ 5 & 2 \end{pmatrix} X$

2. [5pts] Determine whether the following solutions of a system $X' = AX$ form a fundamental set on $(-\infty, \infty)$:

$$X_1 = \begin{pmatrix} 1+t \\ -2+2t \\ 4+2t \end{pmatrix}, \; X_2 = \begin{pmatrix} 1 \\ -2 \\ 4 \end{pmatrix} e^{-4t}, \; X_3 = \begin{pmatrix} 3+2t \\ -6+4t \\ 12+4t \end{pmatrix}$$