MT-A315 Introduction to Linear Algebra Worksheet 2.1

Group: _____ Present: _____

1. Let V be the vector space of 2×2 matrices.
   Is $S = \{\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}, \begin{pmatrix} 3 & 2 \\ -1 & 2 \end{pmatrix}, \begin{pmatrix} -2 & 1 \\ 6 & 7 \end{pmatrix}, \begin{pmatrix} -5 & -3 \\ 8 & 6 \end{pmatrix}\}$ linearly independent? Follow the steps below:

   Find the appropriate system of equations:

   _____ $= 0$

   _____ $= 0$

   _____ $= 0$

   _____ $= 0$

   Solve the system (by hand or using Maple)

   Conclusion: