

Math 302

Quiz 1

13/ 10/ 2010

Name:

ID #

Problem 1 (4 points): Let $S = \{(x, y, x - 2y, x + y) \text{ such that } x, y \in \mathbb{R}\}$. Show that S is a subspace and find a basis and $\dim S$

Problem 2 (6points):

Find the solution space of the system

$$\begin{aligned}2x_1 + x_2 - x_3 - 3x_4 &= 0 \\+x_2 + 2x_3 - x_4 &= 0\end{aligned}$$