| MA 237-02 §1.1 - 1.3 Quiz # | score | Name: 22 January 2002 |
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1. Determine a parametric equation for the line in \mathbb{R}^3 that contains the points (3, 2, 1) and (2, -1, -2). (7 points)

2. The following set of matrices is a dependent set. Show this by expressing one of the matrices as a linear combination of the others. You should be able to see this by trial-and-error. *(6 points)*

$$\left\{ \left[\begin{array}{cc} 4 & 1 \\ 2 & 2 \end{array} \right], \left[\begin{array}{cc} 1 & 2 \\ 2 & 1 \end{array} \right], \left[\begin{array}{cc} 3 & -1 \\ 0 & 1 \end{array} \right] \right\}$$

3. Suppose you are solving a system of three equations in three unknowns and you are able to reduce the system to the following two equations.

$$2x - y + z = 2$$
$$y + z = 4$$

After doing further work, express the solutions to the system in parametric form and give the translation vector and spanning vector(s). Describe the solution geometrically (point, line, plane, etc.). *(7 points)*