

# QUIZ 1

Time: 10min

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Pick two problems:

1. Do all three lines  $x_1 - 4x_2 = 1$ ,  $2x_1 - x_2 = -3$ , and  $-x_1 - 3x_2 = 4$  intersect at a single point? Explain.
2. Row reduce the following matrix to reduced echelon form, and list the pivot columns:

$$\begin{bmatrix} 1 & 3 & 5 & 7 \\ 2 & 4 & 6 & 8 \\ 3 & 5 & 7 & 9 \end{bmatrix}$$

3. Give an example of an inconsistent underdetermined system of two equations in three unknowns.

*Each problem is worth 5 points.*