

Math 54 Worksheet 10
GSI: Lionel Levine
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1. Find bases for the null space, row space, and column space of the matrix, and find its rank.

(a) $\begin{pmatrix} 1 & 2 \\ -5 & -10 \end{pmatrix}$

(b) $\begin{pmatrix} 1 & 3 & 5 \\ 2 & 4 & 6 \end{pmatrix}$

(c) $\begin{pmatrix} -1 & 4 & 3 \\ 0 & 0 & 4 \\ 0 & 0 & -1 \end{pmatrix}$

(d) $\begin{pmatrix} 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 1 & 1 & 1 \end{pmatrix}$