

Name:

• If $A = \begin{bmatrix} -2 & -6 & 0 & 1 & -8 & -4 & 4 \\ 0 & 7 & 0 & -3 & -5 & 0 & 1 \\ 0 & 0 & 0 & 3 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$ then $\text{rank } A = \dots\dots\dots$ and $\text{dim Nul } A = \dots\dots\dots$
(no matrix computations are necessary)

• If a 6×9 matrix B has rank 5 then $\text{dim Nul } B = \dots\dots\dots$

• If C is a 2×5 matrix then the largest possible rank of C is $\dots\dots\dots$

• If D is a 4×7 matrix then the smallest possible dimension of $\text{Nul } D$ is $\dots\dots\dots$