Homework 25, Section 4.7: 1, 4, 7, 11, 14

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Homework

1.

$$\begin{bmatrix} 6 & 9 \\ -2 & -4 \end{bmatrix}$$

4.

(i)

7.

Yes and no. Column A is a four dimensional subspace of R^4, it coincides with R^4. Since the null space cannot be R^3 (Null A has 7 entries) Nul A must be a 3 dimensional subspace of R^7.

11.

2

14. A)

$$A = \begin{bmatrix} 1 & 2 & 1 \\ 0 & 1 & 2 \\ -3 & -5 & 0 \end{bmatrix}$$

14. B)

Solving $\begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix}$ gets us $\begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix}$ and from that we can obtain $t^2 = 3(1-3t^2) - 2(2+t-5t^2) + (1+2t)$