

4. Feladat (Lineáris egyenletrendszer megoldása az együtthatómátrix invertálásával)

2.13. Oldjuk meg az $A \cdot x = b$ egyenletrendszert az A együtthatómátrix invertálásával, ha ismert az A mátrix és a b oszlopvektor! Ellenőrizzük, hogy kapott x vektor valóban megoldása a vizsgált egyenletrendszernek!

$$41) \quad A = \begin{bmatrix} 3 & 5 & 2 & 1 \\ 0 & -2 & 3 & -1 \\ 3 & 4 & 1 & 1 \\ 1 & 3 & -1 & 1 \end{bmatrix}$$

$$b = [2; -5; 1; 4]^*$$

$$42) \quad A = \begin{bmatrix} 1 & -1 & 2 & -3 \\ -1 & 4 & 0 & 7 \\ 1 & 1 & 3 & -1 \\ 2 & 0 & 6 & -3 \end{bmatrix}$$

$$b = [5; -18; -1; -1]^*$$

$$43) \quad A = \begin{bmatrix} 1 & 2 & 4 & 8 \\ 1 & -2 & 1 & 3 \\ -1 & 4 & 1 & 0 \\ 1 & 1 & 3 & 7 \end{bmatrix}$$

$$b = [-1; 0; 0; -1]^*$$

$$44) \quad A = \begin{bmatrix} 1 & -1 & 1 & -1 \\ -1 & 3 & -4 & 1 \\ 1 & -1 & 2 & -2 \\ 3 & -4 & 8 & -6 \end{bmatrix}$$

$$b = [3; -10; 5; 20]^*$$

$$45) \quad A = \begin{bmatrix} 2 & 1 & -1 & 1 \\ 1 & 1 & -2 & 3 \\ 3 & 1 & -3 & 1 \\ 8 & 2 & -8 & 1 \end{bmatrix}$$

$$b = [4; 2; 5; 13]^*$$

$$46) \quad A = \begin{bmatrix} 1 & 4 & -5 & -2 \\ 2 & 5 & -5 & -4 \\ 1 & 0 & -2 & 1 \\ 1 & 2 & -3 & -1 \end{bmatrix}$$

$$b = [-1; 3; -1; 0]^*$$

$$47) \quad A = \begin{bmatrix} 1 & -3 & 2 & -1 \\ 1 & -2 & 3 & 1 \\ 2 & -4 & 5 & 0 \\ 1 & 1 & 5 & 4 \end{bmatrix}$$

$$b = [-6; -5; -9; 0]^*$$

$$48) \quad A = \begin{bmatrix} 1 & -3 & -1 & 2 \\ 1 & -4 & 0 & 2 \\ -1 & 1 & -2 & 0 \\ 2 & -4 & -1 & 3 \end{bmatrix}$$

$$b = [1; 4; -9; 5]^*$$

$$49) \quad A = \begin{bmatrix} 1 & -3 & -4 & 2 \\ 1 & -1 & -3 & 4 \\ -1 & 7 & 7 & 3 \\ 1 & 2 & 0 & 9 \end{bmatrix}$$

$$b = [-5; 1; 20; 15]^*$$

$$50) \quad A = \begin{bmatrix} -1 & 3 & 4 & -2 \\ 1 & -2 & -3 & 1 \\ -1 & 0 & 8 & -4 \\ -2 & 7 & 5 & -2 \end{bmatrix}$$

$$b = [10; -5; 19; 11]^*$$

$$51) \quad A = \begin{bmatrix} -1 & 4 & -3 & 2 \\ 1 & 0 & 6 & 3 \\ -1 & 9 & 1 & 9 \\ -2 & 15 & -1 & 13 \end{bmatrix}$$

$$b = [-3; 15; 13; 15]^*$$

$$52) \quad A = \begin{bmatrix} -1 & 4 & -3 & 2 \\ 1 & -3 & 1 & -1 \\ -1 & 8 & -2 & -1 \\ -2 & 5 & -5 & 5 \end{bmatrix}$$

$$b = [-4; 3; 8; -14]^*$$

$$53) \mathbf{A} = \begin{bmatrix} 1 & -4 & 3 & -2 \\ 2 & -3 & 10 & 3 \\ 1 & 3 & 8 & 7 \\ 2 & 3 & 14 & 10 \end{bmatrix}$$

$$\mathbf{b} = [2; 2; 0; 1]^*$$

$$54) \mathbf{A} = \begin{bmatrix} 2 & 3 & 1 & 2 \\ 1 & 2 & 3 & 4 \\ -1 & -1 & -1 & 1 \\ 1 & 0 & -2 & -6 \end{bmatrix}$$

$$\mathbf{b} = [5; 11; -1; -11]^*$$

$$55) \mathbf{A} = \begin{bmatrix} 8 & 6 & 3 & 3 \\ -1 & -1 & 1 & -1 \\ 2 & 2 & 0 & 1 \\ 5 & 4 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [7; -2; 3; 5]^*$$

$$56) \mathbf{A} = \begin{bmatrix} -7 & -5 & -4 & -2 \\ 7 & 6 & 2 & 3 \\ 5 & 4 & 2 & 2 \\ 8 & 6 & 3 & 3 \end{bmatrix}$$

$$\mathbf{b} = [1; 5; 2; 3]^*$$

$$57) \mathbf{A} = \begin{bmatrix} 2 & 3 & 4 & 3 \\ 3 & 4 & 2 & 2 \\ 1 & 1 & 1 & -1 \\ 2 & 1 & -1 & -7 \end{bmatrix}$$

$$\mathbf{b} = [12; 15; 3; 0]^*$$

$$58) \mathbf{A} = \begin{bmatrix} 4 & 5 & 3 & 1 \\ 3 & 4 & 1 & 1 \\ 2 & 2 & 1 & -2 \\ -1 & -2 & -2 & -4 \end{bmatrix}$$

$$\mathbf{b} = [22; 16; 7; -12]^*$$

$$59) \mathbf{A} = \begin{bmatrix} 2 & 1 & 2 & 3 \\ 3 & -2 & -1 & 5 \\ 1 & 0 & -2 & 2 \\ 0 & -2 & -6 & 1 \end{bmatrix}$$

$$\mathbf{b} = [12; 26; 6; 3]^*$$

$$60) \mathbf{A} = \begin{bmatrix} 2 & 1 & -2 & -1 \\ 0 & 1 & -2 & 0 \\ 5 & 2 & -11 & 2 \\ 3 & 1 & 2 & -4 \end{bmatrix}$$

$$\mathbf{b} = [3; 5; 21; -7]^*$$

$$61) \mathbf{A} = \begin{bmatrix} -3 & 2 & 1 & 1 \\ 1 & 9 & 11 & 2 \\ 8 & 10 & 15 & 1 \\ 13 & 14 & 22 & 1 \end{bmatrix}$$

$$\mathbf{b} = [-8; -7; 6; 12]^*$$

$$62) \mathbf{A} = \begin{bmatrix} 3 & -2 & -1 & 1 \\ 1 & 1 & 0 & -1 \\ -9 & 7 & -3 & 2 \\ -1 & 2 & -2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [-1; 8; -4; 2]^*$$

$$63) \mathbf{A} = \begin{bmatrix} 1 & -2 & 2 & -1 \\ 3 & -1 & 1 & -1 \\ 2 & -2 & 2 & -1 \\ 4 & -3 & 2 & -2 \end{bmatrix}$$

$$\mathbf{b} = [-3; 8; 1; 6]^*$$

$$64) \mathbf{A} = \begin{bmatrix} -1 & 0 & 1 & 0 \\ 2 & 2 & -2 & -1 \\ 1 & 1 & 0 & -1 \\ -4 & -2 & 5 & 0 \end{bmatrix}$$

$$\mathbf{b} = [4; 2; -1; 1]^*$$

$$65) \mathbf{A} = \begin{bmatrix} 0 & 0 & -3 & 2 \\ -1 & 2 & -1 & -2 \\ 0 & -1 & 3 & -1 \\ 2 & -3 & 7 & 0 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; -1; 1]^*$$

$$66) \mathbf{A} = \begin{bmatrix} 2 & 0 & 0 & -3 \\ -1 & 1 & 2 & 1 \\ -1 & 0 & -1 & 2 \\ -2 & -2 & -3 & 4 \end{bmatrix}$$

$$\mathbf{b} = [-1; 2; 0; 1]^*$$

$$67) \mathbf{A} = \begin{bmatrix} 6 & -3 & -2 & -2 \\ -4 & 1 & 1 & 2 \\ -5 & 2 & 1 & 2 \\ -11 & 4 & 3 & 5 \end{bmatrix}$$

$$\mathbf{b} = [2; 1; 4; 3]^*$$

$$68) \mathbf{A} = \begin{bmatrix} 0 & -1 & 1 & -2 \\ 2 & -2 & -1 & -3 \\ -1 & 2 & 0 & 3 \\ -7 & 9 & 2 & 15 \end{bmatrix}$$

$$\mathbf{b} = [-2; 1; 0; 3]^*$$

$$69) \mathbf{A} = \begin{bmatrix} 30 & 9 & -6 & -7 \\ -3 & -1 & 2 & 0 \\ -7 & -2 & 1 & 2 \\ 6 & 2 & -2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; -2; -3]^*$$

$$70) \mathbf{A} = \begin{bmatrix} 9 & -10 & -8 & -6 \\ 2 & -3 & -2 & -1 \\ 1 & 2 & 1 & -2 \\ -2 & 1 & 1 & 2 \end{bmatrix}$$

$$\mathbf{b} = [-3; -1; 1; 0]^*$$

$$71) \mathbf{A} = \begin{bmatrix} 4 & 2 & -10 & 3 \\ 2 & 2 & -9 & 3 \\ 1 & 1 & -6 & 2 \\ 2 & 1 & -7 & 2 \end{bmatrix}$$

$$\mathbf{b} = [2; 1; 3; 1]^*$$

$$72) \mathbf{A} = \begin{bmatrix} 3 & 2 & -13 & 4 \\ -5 & -5 & 29 & -9 \\ 2 & 1 & -7 & 2 \\ 2 & 2 & -10 & 3 \end{bmatrix}$$

$$\mathbf{b} = [3; -2; 1; 1]^*$$

$$73) \mathbf{A} = \begin{bmatrix} 1 & 2 & 3 & -7 \\ 4 & 3 & 5 & -15 \\ 2 & 2 & 3 & -9 \\ 3 & 2 & 4 & -11 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; 1; -1]^*$$

$$74) \mathbf{A} = \begin{bmatrix} -17 & 3 & 10 & -5 \\ -1 & -1 & 1 & 0 \\ 6 & -2 & -3 & 2 \\ -3 & 2 & 1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [-3; 2; 1; 1]^*$$

$$75) \mathbf{A} = \begin{bmatrix} 3 & 6 & 0 & 2 \\ -1 & -3 & 7 & -3 \\ 1 & 0 & 4 & -1 \\ 1 & 2 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [-3; 18; 9; -3]^*$$

$$76) \mathbf{A} = \begin{bmatrix} 3 & 2 & 3 & 2 \\ 9 & 6 & 10 & 7 \\ 2 & 1 & 4 & 2 \\ 2 & 1 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [3; 10; 2; 1]^*$$

$$77) \mathbf{A} = \begin{bmatrix} 4 & 1 & 2 & -1 \\ -5 & 0 & -4 & 2 \\ -2 & 1 & -1 & 1 \\ 5 & -2 & 5 & -3 \end{bmatrix}$$

$$\mathbf{b} = [2; -4; -5; 8]^*$$

$$78) \mathbf{A} = \begin{bmatrix} 8 & 3 & 7 & 0 \\ 4 & 1 & 3 & 1 \\ 2 & -2 & 1 & 4 \\ 1 & 1 & 1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [4; 4; 11; -2]^*$$

$$79) \mathbf{A} = \begin{bmatrix} 2 & 1 & 2 & 2 \\ 2 & 1 & 2 & 3 \\ 2 & 3 & 1 & 4 \\ 1 & 1 & 1 & 2 \end{bmatrix}$$

$$\mathbf{b} = [2; 4; 7; 3]^*$$

$$80) \mathbf{A} = \begin{bmatrix} 2 & 2 & 1 & 2 \\ 3 & 2 & 1 & 2 \\ 2 & 1 & 1 & 1 \\ 4 & 1 & 3 & 2 \end{bmatrix}$$

$$\mathbf{b} = [5; 3; 1; 1]^*$$

$$81) \mathbf{A} = \begin{bmatrix} 5 & 5 & 3 & 2 \\ 4 & 2 & 1 & -1 \\ 5 & 4 & 2 & 0 \\ 2 & 1 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; -3; -2; 2]^*$$

$$82) \mathbf{A} = \begin{bmatrix} 8 & 1 & 2 & -4 \\ 3 & 1 & 1 & -1 \\ 4 & 1 & 1 & -3 \\ 6 & 1 & 2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [3; 2; 1; 4]^*$$

$$83) \mathbf{A} = \begin{bmatrix} 2 & 1 & 1 & 8 \\ 3 & 1 & 2 & 10 \\ 1 & 2 & -2 & 6 \\ -2 & -2 & 1 & -9 \end{bmatrix}$$

$$\mathbf{b} = [5; 6; 3; -5]^*$$

$$84) \mathbf{A} = \begin{bmatrix} 3 & 10 & 14 & 12 \\ 1 & 4 & 6 & 5 \\ -2 & -1 & -2 & -4 \\ 1 & 2 & 3 & 3 \end{bmatrix}$$

$$\mathbf{b} = [-5; -2; 5; -2]^*$$

$$85) \mathbf{A} = \begin{bmatrix} -3 & 4 & 2 & 4 \\ 4 & 4 & 3 & -3 \\ 1 & 3 & -2 & 1 \\ -2 & 4 & 2 & 3 \end{bmatrix}$$

$$\mathbf{b} = [12; 7; 0; 11]^*$$

$$86) \mathbf{A} = \begin{bmatrix} 0 & 3 & 7 & 8 \\ 1 & 1 & 3 & 4 \\ 4 & -2 & 1 & 2 \\ -1 & 1 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; 4; 9; -2]^*$$

$$87) \mathbf{A} = \begin{bmatrix} 3 & 1 & 4 & 1 \\ 7 & 0 & 8 & 3 \\ 1 & 4 & 2 & -2 \\ 1 & -1 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [1; 0; 8; -2]^*$$

$$88) \mathbf{A} = \begin{bmatrix} 6 & 2 & 0 & 3 \\ -3 & -3 & 7 & -1 \\ 0 & -1 & 4 & 1 \\ 2 & 1 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [3; -2; -1; 1]^*$$

$$89) \mathbf{A} = \begin{bmatrix} 1 & 2 & -2 & -10 \\ 1 & 1 & -2 & -8 \\ 2 & -2 & -1 & -6 \\ -2 & 1 & 2 & 9 \end{bmatrix}$$

$$\mathbf{b} = [-3; -2; 5; -2]^*$$

$$90) \mathbf{A} = \begin{bmatrix} 2 & 9 & -1 & -2 \\ -2 & -6 & 2 & 1 \\ -1 & -7 & 0 & 2 \\ 6 & 30 & -3 & -7 \end{bmatrix}$$

$$\mathbf{b} = [1; -1; 0; 2]^*$$

$$91) \mathbf{A} = \begin{bmatrix} 2 & 1 & 1 & 1 \\ 9 & 10 & 14 & 2 \\ 1 & 8 & 13 & -3 \\ 11 & 15 & 22 & 1 \end{bmatrix}$$

$$\mathbf{b} = [-6; -2; 32; 12]^*$$

$$92) \mathbf{A} = \begin{bmatrix} -1 & 1 & -4 & -2 \\ 2 & 0 & 5 & 4 \\ 1 & 1 & 2 & 1 \\ -3 & -2 & -5 & -5 \end{bmatrix}$$

$$\mathbf{b} = [3; -3; -1; 2]^*$$

$$93) \mathbf{A} = \begin{bmatrix} 2 & 2 & 3 & 2 \\ 2 & 3 & 4 & 1 \\ -9 & -11 & -15 & -7 \\ 3 & 4 & 5 & 3 \end{bmatrix}$$

$$\mathbf{b} = [4; 8; -26; 8]^*$$

$$94) \mathbf{A} = \begin{bmatrix} 3 & 2 & 3 & 2 \\ -10 & -6 & -9 & -7 \\ 2 & 1 & 2 & 1 \\ 4 & 1 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [0; -2; 0; 3]^*$$

$$95) \mathbf{A} = \begin{bmatrix} 2 & 3 & 3 & 2 \\ -6 & -10 & -9 & -7 \\ 1 & 4 & 2 & 2 \\ 1 & 2 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; -2; 0]^*$$

$$96) \mathbf{A} = \begin{bmatrix} 3 & 4 & 2 & 1 \\ -1 & -2 & -1 & -1 \\ -1 & -3 & -2 & -2 \\ 1 & 2 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [7; -4; -7; 6]^*$$

$$97) \mathbf{A} = \begin{bmatrix} -2 & 1 & 7 & 2 \\ -1 & 0 & -3 & -2 \\ 3 & 1 & -9 & -1 \\ 1 & -1 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; -8; 0; 5]^*$$

$$98) \mathbf{A} = \begin{bmatrix} 0 & -2 & 5 & 1 \\ 1 & 2 & -2 & 0 \\ 1 & 2 & -4 & -1 \\ -1 & -1 & 0 & 0 \end{bmatrix}$$

$$\mathbf{b} = [3; 7; 5; -8]^*$$

$$99) \mathbf{A} = \begin{bmatrix} 5 & 0 & 1 & -2 \\ 0 & -1 & 0 & -1 \\ -4 & 1 & -1 & 2 \\ -2 & 1 & 0 & 2 \end{bmatrix}$$

$$\mathbf{b} = [5; -1; -3; -2]^*$$

$$100) \mathbf{A} = \begin{bmatrix} 1 & -2 & 1 & -9 \\ 4 & 0 & -7 & 10 \\ -4 & 3 & 3 & 7 \\ -5 & -1 & 10 & -17 \end{bmatrix}$$

$$\mathbf{b} = [-5; 7; 3; -1]^*$$

$$101) \mathbf{A} = \begin{bmatrix} -1 & -2 & -1 & -1 \\ 2 & 2 & 2 & 1 \\ 2 & 4 & 1 & 3 \\ -2 & -3 & -2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; -3; 1]^*$$

$$102) \mathbf{A} = \begin{bmatrix} 2 & 1 & 2 & 2 \\ -2 & -1 & -2 & -3 \\ -1 & -1 & -1 & -2 \\ 2 & 3 & 1 & 4 \end{bmatrix}$$

$$\mathbf{b} = [7; 1; 1; 0]^*$$

$$103) \mathbf{A} = \begin{bmatrix} 0 & -2 & 2 & 1 \\ 0 & 0 & -1 & -1 \\ 1 & 5 & -2 & 0 \\ -1 & -4 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; 1; 1]^*$$

$$104) \mathbf{A} = \begin{bmatrix} 8 & 2 & 1 & -4 \\ 3 & 1 & 1 & -1 \\ -4 & -1 & -1 & 3 \\ -6 & -2 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; -1; 1; 0]^*$$

$$105) \mathbf{A} = \begin{bmatrix} 3 & 1 & -1 & 1 \\ 8 & 2 & -4 & 1 \\ -4 & -1 & 3 & -1 \\ -6 & -2 & 1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [1; -1; -1; 1]^*$$

$$106) \mathbf{A} = \begin{bmatrix} -5 & -5 & -3 & -2 \\ -4 & -2 & -1 & 1 \\ 5 & 4 & 2 & 0 \\ 2 & 1 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; 2; 0; -2]^*$$

$$107) \mathbf{A} = \begin{bmatrix} 10 & -7 & 0 & 4 \\ 7 & 3 & 3 & -4 \\ -9 & 1 & -2 & 1 \\ -17 & 10 & -1 & -5 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; 0; -10]^*$$

$$108) \mathbf{A} = \begin{bmatrix} -2 & 1 & 2 & 9 \\ 1 & 2 & -3 & -10 \\ 2 & -2 & -1 & -6 \\ 1 & 1 & -2 & -8 \end{bmatrix}$$

$$\mathbf{b} = [0; -1; 1; 2]^*$$

$$109) \mathbf{A} = \begin{bmatrix} -2 & -3 & -2 & -2 \\ 4 & 5 & 3 & 3 \\ -3 & -4 & -1 & -2 \\ -11 & -15 & -7 & -9 \end{bmatrix}$$

$$\mathbf{b} = [2; -3; -1; 1]^*$$

$$110) \mathbf{A} = \begin{bmatrix} -4 & 1 & -1 & 3 \\ 8 & -2 & 1 & -4 \\ 3 & -1 & 1 & -1 \\ -6 & 2 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [-1; 2; 0; 1]^*$$

$$111) \mathbf{A} = \begin{bmatrix} 1 & -2 & 2 & -6 \\ 2 & -1 & 0 & -7 \\ -2 & 2 & -1 & 9 \\ -7 & 6 & -3 & 30 \end{bmatrix}$$

$$\mathbf{b} = [1; -1; 2; 0]^*$$

$$112) \mathbf{A} = \begin{bmatrix} 0 & 2 & 1 & -5 \\ 1 & -2 & 0 & 2 \\ 1 & -2 & -1 & 4 \\ -1 & 1 & 0 & 0 \end{bmatrix}$$

$$\mathbf{b} = [0; 0; -1; 2]^*$$

$$113) \mathbf{A} = \begin{bmatrix} -1 & -2 & 2 & 10 \\ 2 & -2 & -1 & -6 \\ -2 & 1 & 2 & 9 \\ 1 & 1 & -2 & -8 \end{bmatrix}$$

$$\mathbf{b} = [-1; 1; 0; -1]^*$$

$$114) \mathbf{A} = \begin{bmatrix} 89 & 14 & 4 & -106 \\ -26 & -4 & -1 & 31 \\ 6 & 1 & 0 & -7 \\ 90 & 14 & 4 & -107 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; 2; 1]^*$$

$$115) \mathbf{A} = \begin{bmatrix} -4 & 2 & -1 & -2 \\ 0 & 3 & 7 & 8 \\ 1 & 1 & 3 & 4 \\ 1 & -1 & -1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [-1; -1; 0; 1]^*$$

$$116) \mathbf{A} = \begin{bmatrix} 2 & 3 & -3 & -2 \\ 1 & 4 & -2 & -2 \\ -6 & -10 & 9 & 7 \\ 1 & 2 & -2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; -1; 1]^*$$

$$117) \mathbf{A} = \begin{bmatrix} -2 & -2 & 3 & 2 \\ -2 & -3 & 4 & 1 \\ 9 & 11 & -15 & -7 \\ -3 & -4 & 5 & 3 \end{bmatrix}$$

$$\mathbf{b} = [0; -1; 1; 2]^*$$

$$118) \mathbf{A} = \begin{bmatrix} -1 & 1 & 0 & 0 \\ 1 & -2 & 4 & -1 \\ 1 & -2 & 2 & 0 \\ 0 & 2 & -5 & 1 \end{bmatrix}$$

$$\mathbf{b} = [-2; 2; 1; 2]^*$$

$$119) \mathbf{A} = \begin{bmatrix} 1 & -14 & 2 & 15 \\ -7 & 71 & -9 & -76 \\ 4 & -40 & 5 & 43 \\ 2 & -16 & 2 & 17 \end{bmatrix}$$

$$\mathbf{b} = [1; -5; 3; 1]^*$$

$$120) \mathbf{A} = \begin{bmatrix} 16 & 11 & 20 & -48 \\ 4 & 3 & 5 & -12 \\ -15 & -10 & -18 & 44 \\ 2 & 1 & 2 & -5 \end{bmatrix}$$

$$\mathbf{b} = [0; 0; -1; 1]^*$$

$$121) \mathbf{A} = \begin{bmatrix} 55 & -12 & -31 & -11 \\ 7 & -2 & -4 & -1 \\ -9 & 2 & 5 & 2 \\ -76 & 17 & 43 & 15 \end{bmatrix}$$

$$\mathbf{b} = [-7; 0; 1; 6]^*$$

$$122) \mathbf{A} = \begin{bmatrix} -11 & -1 & 2 & 15 \\ 55 & 7 & -9 & -76 \\ -31 & -4 & 5 & 43 \\ -12 & -2 & 2 & 17 \end{bmatrix}$$

$$\mathbf{b} = [1; -2; 1; 0]^*$$

$$123) \mathbf{A} = \begin{bmatrix} 1 & 2 & 1 & -1 \\ 3 & 7 & 3 & -4 \\ -4 & -9 & -2 & 4 \\ 2 & 4 & 1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [-1; -7; 5; 2]^*$$

$$124) \mathbf{A} = \begin{bmatrix} -4 & 1 & -1 & 1 \\ -11 & 2 & -1 & 2 \\ 7 & -1 & 1 & -2 \\ 20 & -4 & 2 & -3 \end{bmatrix}$$

$$\mathbf{b} = [-2; -8; 5; 14]^*$$

$$125) \mathbf{A} = \begin{bmatrix} 1 & -1 & -1 & 1 \\ 2 & -6 & -1 & 2 \\ -1 & 3 & 1 & -2 \\ -4 & 11 & 2 & -3 \end{bmatrix}$$

$$\mathbf{b} = [5; 9; -7; -16]^*$$

$$126) \mathbf{A} = \begin{bmatrix} -4 & 2 & 1 & -1 \\ 20 & -11 & -4 & 7 \\ 2 & -1 & -1 & 1 \\ -3 & 2 & 1 & -2 \end{bmatrix}$$

$$\mathbf{b} = [4; -19; -2; 3]^*$$

$$127) \mathbf{A} = \begin{bmatrix} 4 & 9 & 4 & 5 \\ 1 & 2 & 1 & 1 \\ 3 & 7 & 1 & 3 \\ 3 & 6 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [9; 2; 9; 7]^*$$

$$128) \mathbf{A} = \begin{bmatrix} 2 & 4 & 1 & 1 \\ 3 & 7 & 4 & 3 \\ 1 & 2 & 1 & 1 \\ 4 & 9 & 4 & 2 \end{bmatrix}$$

$$\mathbf{b} = [2; 2; 1; 2]^*$$

$$129) \mathbf{A} = \begin{bmatrix} 1 & -1 & -2 & 7 \\ -1 & 1 & 1 & -4 \\ 2 & -4 & -3 & 20 \\ -1 & 2 & 2 & -11 \end{bmatrix}$$

$$\mathbf{b} = [-2; 2; 1; 1]^*$$

$$130) \mathbf{A} = \begin{bmatrix} 1 & -1 & 3 & -2 \\ -1 & 1 & -1 & 1 \\ 2 & -4 & 11 & -3 \\ -1 & 2 & -6 & 2 \end{bmatrix}$$

$$\mathbf{b} = [-4; 2; -6; 5]^*$$

$$131) \mathbf{A} = \begin{bmatrix} 1 & 1 & 2 & 3 \\ 3 & 5 & 7 & 2 \\ 6 & 4 & 3 & 5 \\ 2 & 4 & 6 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; 0; 1]^*$$

$$132) \mathbf{A} = \begin{bmatrix} 0 & 2 & 1 & 4 \\ -1 & 4 & 0 & 0 \\ 3 & 1 & 4 & 4 \\ 1 & 2 & 2 & 3 \end{bmatrix}$$

$$\mathbf{b} = [3; 0; 0; 1]^*$$

$$133) \mathbf{A} = \begin{bmatrix} 5 & 3 & -1 & 4 \\ 2 & -1 & 3 & 1 \\ 7 & 5 & -4 & 6 \\ 3 & 2 & 3 & 2 \end{bmatrix}$$

$$\mathbf{b} = [0; -2; 1; 0]^*$$

$$134) \mathbf{A} = \begin{bmatrix} 3 & 5 & 7 & 2 \\ 2 & 3 & 5 & -1 \\ 3 & -1 & -4 & 3 \\ 2 & 4 & 6 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; 1; 0]^*$$

$$135) \mathbf{A} = \begin{bmatrix} 11 & -4 & -2 & -3 \\ -6 & 2 & 1 & 2 \\ -1 & 1 & 1 & 1 \\ -3 & 1 & 1 & 2 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; 1; 5]^*$$

$$136) \mathbf{A} = \begin{bmatrix} 1 & 2 & 1 & 1 \\ 4 & 9 & 5 & 4 \\ 1 & 7 & 3 & 3 \\ 2 & 6 & 2 & 3 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; -1; 0]^*$$

$$137) \mathbf{A} = \begin{bmatrix} 3 & 7 & 4 & 3 \\ 1 & 2 & 1 & 1 \\ 2 & 9 & 4 & 4 \\ 1 & 4 & 1 & 2 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; -1; 2]^*$$

$$138) \mathbf{A} = \begin{bmatrix} 4 & 1 & 3 & 3 \\ 9 & 2 & 7 & 6 \\ 4 & 1 & 1 & 2 \\ 5 & 1 & 3 & 2 \end{bmatrix}$$

$$\mathbf{b} = [0; 2; 1; 1]^*$$

$$139) \mathbf{A} = \begin{bmatrix} -4 & 20 & 2 & -3 \\ 2 & -11 & -1 & 2 \\ 1 & -4 & -1 & 1 \\ -1 & 7 & 1 & -2 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; -1; 0]^*$$

$$140) \mathbf{A} = \begin{bmatrix} -3 & -4 & 11 & 2 \\ 2 & 2 & -6 & -1 \\ -2 & -1 & 3 & 1 \\ 1 & 1 & -1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [1; 0; -1; 1]^*$$

$$141) \mathbf{A} = \begin{bmatrix} 3 & 1 & 3 & 7 \\ 5 & 4 & 4 & 9 \\ 2 & 2 & 3 & 6 \\ 1 & 1 & 1 & 2 \end{bmatrix}$$

$$\mathbf{b} = [-1; 2; 3; 1]^*$$

$$142) \mathbf{A} = \begin{bmatrix} 4 & 2 & 4 & 9 \\ 4 & 3 & 3 & 7 \\ 1 & 1 & 1 & 2 \\ 1 & 1 & 2 & 4 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; 0; 2]^*$$

$$143) \mathbf{A} = \begin{bmatrix} 7 & -1 & -3 & -3 \\ -1 & 1 & 2 & 1 \\ 4 & 1 & 0 & -1 \\ 0 & 3 & 6 & 2 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; 1; 1]^*$$

$$144) \mathbf{A} = \begin{bmatrix} -2 & 2 & -1 & -6 \\ 1 & 1 & -2 & -8 \\ 1 & -2 & 2 & 9 \\ 2 & 1 & -3 & -10 \end{bmatrix}$$

$$\mathbf{b} = [2; 1; -1; -2]^*$$

$$145) \mathbf{A} = \begin{bmatrix} -1 & -2 & -1 & -1 \\ 2 & 2 & 2 & 1 \\ 2 & 4 & 1 & 3 \\ -2 & -3 & -2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; -3; 1]^*$$

$$146) \mathbf{A} = \begin{bmatrix} 2 & 1 & 2 & 2 \\ -2 & -1 & -2 & -3 \\ -1 & -1 & -1 & -2 \\ 2 & 3 & 1 & 4 \end{bmatrix}$$

$$\mathbf{b} = [7; 1; 1; 0]^*$$

$$147) \mathbf{A} = \begin{bmatrix} 0 & -2 & 2 & 1 \\ 0 & 0 & -1 & -1 \\ 1 & 5 & -2 & 0 \\ -1 & -4 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; 1; 1; 1]^*$$

$$148) \mathbf{A} = \begin{bmatrix} 8 & 2 & 1 & -4 \\ 3 & 1 & 1 & -1 \\ -4 & -1 & -1 & 3 \\ -6 & -2 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [0; -1; 1; 0]^*$$

$$149) \mathbf{A} = \begin{bmatrix} 3 & 1 & -1 & 1 \\ 8 & 2 & -4 & 1 \\ -4 & -1 & 3 & -1 \\ -6 & -2 & 1 & -1 \end{bmatrix}$$

$$\mathbf{b} = [1; -1; -1; 1]^*$$

$$150) \mathbf{A} = \begin{bmatrix} -5 & -5 & -3 & -2 \\ -4 & -2 & -1 & 1 \\ 5 & 4 & 2 & 0 \\ 2 & 1 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; 2; 0; -2]^*$$

$$151) \mathbf{A} = \begin{bmatrix} 10 & -7 & 0 & 4 \\ 7 & 3 & 3 & -4 \\ -9 & 1 & -2 & 1 \\ -17 & 10 & -1 & -5 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; 0; -10]^*$$

$$152) \mathbf{A} = \begin{bmatrix} 1 & -3 & 2 & -1 \\ 1 & -2 & 3 & 1 \\ 2 & -4 & 5 & 0 \\ 1 & 1 & 5 & 4 \end{bmatrix}$$

$$\mathbf{b} = [-6; -5; -9; 0]^*$$

$$153) \mathbf{A} = \begin{bmatrix} 1 & 4 & -5 & -2 \\ 2 & 5 & -5 & -4 \\ 1 & 0 & -2 & 1 \\ 1 & 2 & -3 & -1 \end{bmatrix}$$

$$\mathbf{b} = [-1; 3; -1; 0]^*$$

$$154) \mathbf{A} = \begin{bmatrix} 2 & 1 & -1 & 1 \\ 1 & 1 & -2 & 3 \\ 3 & 1 & -3 & 1 \\ 8 & 2 & -8 & 1 \end{bmatrix}$$

$$\mathbf{b} = [4; 2; 5; 13]^*$$

$$155) \mathbf{A} = \begin{bmatrix} 1 & -1 & 1 & -1 \\ -1 & 3 & -4 & 1 \\ 1 & -1 & 2 & -2 \\ 3 & -4 & 8 & -6 \end{bmatrix}$$

$$\mathbf{b} = [3; -10; 5; 20]^*$$

$$156) \mathbf{A} = \begin{bmatrix} 1 & 2 & 4 & 8 \\ 1 & -2 & 1 & 3 \\ -1 & 4 & 1 & 0 \\ 1 & 1 & 3 & 7 \end{bmatrix}$$

$$\mathbf{b} = [-1; 0; 0; -1]^*$$

$$157) \mathbf{A} = \begin{bmatrix} 1 & -1 & 2 & -3 \\ -1 & 4 & 0 & 7 \\ 1 & 1 & 3 & -1 \\ 2 & 0 & 6 & -3 \end{bmatrix}$$

$$\mathbf{b} = [5; -18; -1; -1]^*$$

$$158) \mathbf{A} = \begin{bmatrix} 3 & 5 & 2 & 1 \\ 0 & -2 & 3 & -1 \\ 3 & 4 & 1 & 1 \\ 1 & 3 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; -5; 1; 4]^*$$

$$159) \mathbf{A} = \begin{bmatrix} 1 & -3 & -1 & 2 \\ 1 & -4 & 0 & 2 \\ -1 & 1 & -2 & 0 \\ 2 & -4 & -1 & 3 \end{bmatrix}$$

$$\mathbf{b} = [1; 4; -9; 5]^*$$

$$160) \mathbf{A} = \begin{bmatrix} 8 & 6 & 3 & 3 \\ -1 & -1 & 1 & -1 \\ 2 & 2 & 0 & 1 \\ 5 & 4 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [7; -2; 3; 5]^*$$

$$161) \mathbf{A} = \begin{bmatrix} 3 & 5 & 2 & 1 \\ 3 & 4 & 1 & 1 \\ 0 & -2 & 3 & -1 \\ 1 & 3 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; 1; -5; 4]^*$$

$$162) \mathbf{A} = \begin{bmatrix} 1 & -1 & 2 & -3 \\ 1 & 1 & 3 & -1 \\ -1 & 4 & 0 & 7 \\ 2 & 0 & 6 & -3 \end{bmatrix}$$

$$\mathbf{b} = [5; -1; -18; -1]^*$$

$$163) \mathbf{A} = \begin{bmatrix} 1 & -1 & 1 & -1 \\ 1 & -1 & 2 & -2 \\ -1 & 3 & -4 & 1 \\ 3 & -4 & 8 & -6 \end{bmatrix}$$

$$\mathbf{b} = [3; -10; 5; 20]^*$$

$$164) \mathbf{A} = \begin{bmatrix} 2 & 1 & -1 & 1 \\ 3 & 1 & -3 & 1 \\ 1 & 1 & -2 & 3 \\ 8 & 2 & -8 & 1 \end{bmatrix}$$

$$\mathbf{b} = [4; 5; 2; 13]^*$$

$$165) \mathbf{A} = \begin{bmatrix} 1 & 4 & -5 & -2 \\ 1 & 0 & -2 & 1 \\ 2 & 5 & -5 & -4 \\ 1 & 2 & -3 & -1 \end{bmatrix}$$

$$\mathbf{b} = [-1; -1; 3; 0]^*$$

$$166) \mathbf{A} = \begin{bmatrix} 0 & -2 & -6 & 1 \\ 3 & -2 & -1 & 5 \\ 1 & 0 & -2 & 2 \\ 2 & 1 & 2 & 3 \end{bmatrix}$$

$$\mathbf{b} = [3; 26; 6; 12]^*$$

$$167) \mathbf{A} = \begin{bmatrix} 3 & 1 & 2 & -4 \\ 0 & 1 & -2 & 0 \\ 5 & 2 & -11 & 2 \\ 2 & 1 & -2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [-7; 5; 21; 3]^*$$

$$168) \mathbf{A} = \begin{bmatrix} 13 & 14 & 22 & 1 \\ 1 & 9 & 11 & 2 \\ 8 & 10 & 15 & 1 \\ -3 & 2 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [12; -7; 6; -8]^*$$

$$169) \mathbf{A} = \begin{bmatrix} -1 & 2 & -2 & 1 \\ 1 & 1 & 0 & -1 \\ -9 & 7 & -3 & 2 \\ 3 & -2 & -1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [2; 8; -4; -1]^*$$

$$170) \mathbf{A} = \begin{bmatrix} 4 & -3 & 2 & -2 \\ 3 & -1 & 1 & -1 \\ 2 & -2 & 2 & -1 \\ 1 & -2 & 2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [6; 8; 1; -3]^*$$

$$171) \mathbf{A} = \begin{bmatrix} -4 & -2 & 5 & 0 \\ 2 & 2 & -2 & -1 \\ 1 & 1 & 0 & -1 \\ -1 & 0 & 1 & 0 \end{bmatrix}$$

$$\mathbf{b} = [1; 2; -1; 4]^*$$

$$172) \mathbf{A} = \begin{bmatrix} 2 & -3 & 7 & 0 \\ -1 & 2 & -1 & -2 \\ 0 & -1 & 3 & -1 \\ 0 & 0 & -3 & 2 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; -1; 0]^*$$

$$173) \mathbf{A} = \begin{bmatrix} -2 & -2 & -3 & 4 \\ -1 & 1 & 2 & 1 \\ -1 & 0 & -1 & 2 \\ 2 & 0 & 0 & -3 \end{bmatrix}$$

$$\mathbf{b} = [1; 2; 0; -1]^*$$

$$174) \mathbf{A} = \begin{bmatrix} -11 & 4 & 3 & 5 \\ -4 & 1 & 1 & 2 \\ -5 & 2 & 1 & 2 \\ 6 & -3 & -2 & -2 \end{bmatrix}$$

$$\mathbf{b} = [3; 1; 4; 2]^*$$

$$175) \mathbf{A} = \begin{bmatrix} -7 & 9 & 2 & 15 \\ 2 & -2 & -1 & -3 \\ -1 & 2 & 0 & 3 \\ 0 & -1 & 1 & -2 \end{bmatrix}$$

$$\mathbf{b} = [3; 1; 0; -2]^*$$

$$176) \mathbf{A} = \begin{bmatrix} 6 & 2 & -2 & -1 \\ -3 & -1 & 2 & 0 \\ -7 & -2 & 1 & 2 \\ 30 & 9 & -6 & -7 \end{bmatrix}$$

$$\mathbf{b} = [-3; 1; -2; 1]^*$$

$$177) \mathbf{A} = \begin{bmatrix} -2 & 1 & 1 & 2 \\ 2 & -3 & -2 & -1 \\ 1 & 2 & 1 & -2 \\ 9 & -10 & -8 & -6 \end{bmatrix}$$

$$\mathbf{b} = [0; -1; 1; -3]^*$$

$$178) \mathbf{A} = \begin{bmatrix} 2 & 1 & -7 & 2 \\ 2 & 2 & -9 & 3 \\ 1 & 1 & -6 & 2 \\ 4 & 2 & -10 & 3 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; 3; 2]^*$$

$$179) \mathbf{A} = \begin{bmatrix} 2 & 2 & -10 & 3 \\ -5 & -5 & 29 & -9 \\ 2 & 1 & -7 & 2 \\ 3 & 2 & -13 & 4 \end{bmatrix}$$

$$\mathbf{b} = [1; -2; 1; 3]^*$$

$$180) \mathbf{A} = \begin{bmatrix} 3 & 2 & 4 & -11 \\ 4 & 3 & 5 & -15 \\ 2 & 2 & 3 & -9 \\ 1 & 2 & 3 & -7 \end{bmatrix}$$

$$\mathbf{b} = [-1; 0; 1; 2]^*$$

$$181) \mathbf{A} = \begin{bmatrix} -3 & 2 & 1 & -1 \\ -1 & -1 & 1 & 0 \\ 6 & -2 & -3 & 2 \\ -17 & 3 & 10 & -5 \end{bmatrix}$$

$$\mathbf{b} = [-1; 2; 1; -3]^*$$

$$182) \mathbf{A} = \begin{bmatrix} 1 & 2 & -1 & 1 \\ -1 & -3 & 7 & -3 \\ 1 & 0 & 4 & -1 \\ 3 & 6 & 0 & 2 \end{bmatrix}$$

$$\mathbf{b} = [-3; 18; 9; -3]^*$$

$$183) \mathbf{A} = \begin{bmatrix} 2 & 1 & 2 & 1 \\ 9 & 6 & 10 & 7 \\ 2 & 1 & 4 & 2 \\ 3 & 2 & 3 & 2 \end{bmatrix}$$

$$\mathbf{b} = [1; 10; 2; 3]^*$$

$$184) \mathbf{A} = \begin{bmatrix} 5 & -2 & 5 & -3 \\ -5 & 0 & -4 & 2 \\ -2 & 1 & -1 & 1 \\ 4 & 1 & 2 & -1 \end{bmatrix}$$

$$\mathbf{b} = [8; -4; -5; 2]^*$$

$$185) \mathbf{A} = \begin{bmatrix} 7 & 4 & 3 & 1 \\ 6 & 4 & 2 & 1 \\ 8 & 5 & 3 & 1 \\ 0 & 3 & -2 & 0 \end{bmatrix}$$

$$\mathbf{b} = [5; 8; 0; 4]^*$$

$$186) \mathbf{A} = \begin{bmatrix} 1 & 3 & -2 & -2 \\ -2 & -4 & 3 & 3 \\ 2 & 3 & -2 & -3 \\ -2 & -2 & 1 & 4 \end{bmatrix}$$

$$\mathbf{b} = [4; 3; 1; 2]^*$$

$$187) \mathbf{A} = \begin{bmatrix} 4 & 7 & 1 & 3 \\ 4 & 6 & 1 & 2 \\ 3 & 0 & 0 & -2 \\ 5 & 8 & 1 & 3 \end{bmatrix}$$

$$\mathbf{b} = [4; 1; 3; 2]^*$$

$$188) \mathbf{A} = \begin{bmatrix} 4 & -2 & 1 & -2 \\ -5 & 2 & -1 & 3 \\ 2 & 3 & 0 & -4 \\ 6 & -3 & 1 & -3 \end{bmatrix}$$

$$\mathbf{b} = [13; -15; 3; 18]^*$$

$$189) \mathbf{A} = \begin{bmatrix} -1 & 1 & 3 & 1 \\ 2 & 3 & 3 & 1 \\ 2 & 4 & 4 & 1 \\ 0 & 1 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [4; 22; 26; 7]^*$$

$$190) \mathbf{A} = \begin{bmatrix} -5 & 2 & 3 & -1 \\ 4 & -2 & -2 & 1 \\ 6 & -3 & -3 & 1 \\ 2 & 3 & -4 & 0 \end{bmatrix}$$

$$\mathbf{b} = [-13; 8; 10; 34]^*$$

$$191) \mathbf{A} = \begin{bmatrix} -2 & 2 & 1 & 4 \\ 3 & -2 & -1 & -3 \\ -4 & 2 & 2 & 3 \\ -3 & 1 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; 1; 1]^*$$

$$192) \mathbf{A} = \begin{bmatrix} 1 & 3 & 3 & -2 \\ 1 & 5 & 7 & -5 \\ 1 & 4 & 4 & -2 \\ 0 & -2 & -3 & 2 \end{bmatrix}$$

$$\mathbf{b} = [5; 8; 7; -3]^*$$

$$193) \mathbf{A} = \begin{bmatrix} 1 & -2 & -2 & 2 \\ 5 & -6 & -5 & 3 \\ -2 & 3 & 3 & -2 \\ -3 & 4 & 3 & -2 \end{bmatrix}$$

$$\mathbf{b} = [2; -1; 0; 3]^*$$

$$194) \mathbf{A} = \begin{bmatrix} 1 & 2 & 2 & 2 \\ 1 & 2 & 1 & 3 \\ 1 & 0 & 2 & -1 \\ 2 & 1 & 2 & 1 \end{bmatrix}$$

$$\mathbf{b} = [6; 9; -1; 6]^*$$

$$195) \mathbf{A} = \begin{bmatrix} 6 & 5 & 4 & 1 \\ 5 & 5 & 3 & 1 \\ 7 & 6 & 4 & 1 \\ 0 & 3 & -2 & 0 \end{bmatrix}$$

$$\mathbf{b} = [1; 1; 1; 1]^*$$

$$196) \mathbf{A} = \begin{bmatrix} -5 & 2 & 3 & -1 \\ 4 & -2 & -2 & 1 \\ 6 & -3 & -3 & 1 \\ -13 & 10 & 4 & -3 \end{bmatrix}$$

$$\mathbf{b} = [-1; 1; 1; -2]^*$$

$$197) \mathbf{A} = \begin{bmatrix} 2 & 5 & 2 & 0 \\ 3 & 7 & 4 & 1 \\ 3 & 5 & 4 & 2 \\ 1 & 1 & 1 & 1 \end{bmatrix}$$

$$\mathbf{b} = [1; 0; 1; 1]^*$$

$$198) \mathbf{A} = \begin{bmatrix} 1 & 3 & -2 & -2 \\ -2 & -4 & 3 & 3 \\ 2 & 3 & -2 & -3 \\ -2 & -2 & 1 & 4 \end{bmatrix}$$

$$\mathbf{b} = [2; 1; 0; 1]^*$$

$$199) \mathbf{A} = \begin{bmatrix} -1 & 2 & 2 & -2 \\ 4 & -4 & -3 & 1 \\ 2 & -3 & -3 & 2 \\ -2 & 2 & 1 & 0 \end{bmatrix}$$

$$\mathbf{b} = [2; 1; 1; 2]^*$$

$$200) \mathbf{A} = \begin{bmatrix} 2 & 3 & -1 & 1 \\ 2 & 2 & 0 & 1 \\ 2 & 1 & 2 & 2 \\ 1 & 0 & 2 & 2 \end{bmatrix}$$

$$\mathbf{b} = [2; 0; 3; 1]^*$$