3 Rozwiązać układy równań:

3.1 $\begin{cases} 2x + 3y = 1 \\ 3x + y = 0 \end{cases}$ $-1/7, 3/7$

3.2 $\begin{cases} x + y = 1 \\ x + 2y - 3z = -3 \\ 2x + 4y + z = 1 \end{cases}$ $2, -1, 1$

3.3 $\begin{cases} 3x + y + z = -1 \\ x + 2z = -6 \\ 3y + 2z = 0 \end{cases}$ $0, 2, -3$

3.4 $\begin{cases} 2x + 3y + 2z = 1 \\ 3x + 4y + 2z = 2 \\ 4x + 2y + 3z = 3 \end{cases}$ $8/7, -1/7, -3/7$

3.5 $\begin{cases} x + y + z + t = 1 \\ 2x + 2y + z + t = 0 \\ 3x + 2y + 3z + 2t = 3 \\ 6x + 4y + 3z + 2t = 2 \end{cases}$ $1, -2, 0, 2$

3.6 $\begin{cases} x - 2y + 3s + t = 1 \\ 2x - 3y + z + 8s + 2t = 3 \\ x - 2y + z + 3s - t = 1 \\ y + 3s + 5t = 0 \\ x - 2y + 5s + 8t = -1 \end{cases}$ $10, 3, 0, -1, 0$

3.7 $\begin{cases} x + 2y + z + t = 7 \\ 2x - y - z + 4t = 2 \\ 5x + 5y + 2z + 7t = 1 \end{cases}$ sprzeczny

3.8 $\begin{cases} x + 2y + 3z + t = 1 \\ 2x + 4y - z + 2t = 2 \\ 3x + 6y + 10z + 3t = 3 \\ x + y + z + t = 0 \end{cases}$ $x = -1 - t$, $y = 1$, $z = 0$

3.9 $\begin{cases} x - y + z - 2s + t = 0 \\ 3x + 4y - z + s + 3t = 1 \\ x - 8y + 5z - 9s + t = -1 \end{cases}$ $x = \frac{1}{7} - \frac{3}{7}z + s - t$, $y = \frac{1}{7} + \frac{4}{7}z - s$

3.10 $\left[\begin{array}{cccc|c} 3 & 2 & 1 & -1 & 0 \\ 5 & -1 & 1 & 2 & -4 \\ 7 & 8 & 1 & -7 & 6 \\ 1 & -1 & 1 & 2 & 4 \end{array}\right]$ sprzeczny

3.11 $\left[\begin{array}{ccccc|c} 2 & 3 & 1 & -2 & -1 & 6 \\ 4 & 7 & 2 & -5 & 1 & 17 \\ 6 & 5 & 3 & -2 & -9 & 1 \\ 2 & 6 & 1 & -5 & -10 & 12 \end{array}\right]$ $y = 7/2 + s, z = -4 - 2x - s, t = 1/2$

3.12 $\left[\begin{array}{cccc|c} 3 & 1 & 0 & -2 & 1 \\ 5 & 2 & 2 & -1 & 5 \\ 1 & -1 & 0 & -2 & -5 \\ 5 & 1 & 1 & -3 & 0 \\ -7 & -3 & 1 & 5 & -4 \\ 4 & 1 & -2 & -5 & -2 \end{array}\right]$ $x = -1 + t, y = 4 - t, z = 1 - t$

3.13 $\left[\begin{array}{ccccc|c} 1 & -3 & 1 & -2 & 1 & -5 \\ 2 & -6 & 0 & -4 & 1 & -10 \\ 0 & 0 & 2 & 0 & 1 & 0 \\ -2 & 6 & 2 & 4 & 0 & 10 \\ -2 & 6 & 4 & 4 & 1 & 10 \\ -1 & 3 & 1 & 2 & 0 & 5 \end{array}\right]$ $x = -5 + 3y + z + 2s, t = -2z$

3.14 $\left[\begin{array}{ccc|c} 1 & 1 & 1 & 1 \\ a & b & c & d \\ a^2 & b^2 & c^2 & d^2 \end{array}\right]$ dla a, b $c \in \mathbf{R}$.

3.15 $\left[\begin{array}{ccc|c} a & 1 & 1 & a \\ 1 & b & 1 & b \\ 1 & 1 & c & c \end{array}\right]$ dla a, b $c \in \mathbf{R}$.

3.16 $\left[\begin{array}{cccc|c} a & b & c & d & 1 \\ b & c & d & e & 1 \\ c & d & e & a & 1 \\ d & e & a & b & 1 \\ e & a & b & c & 1 \end{array}\right]$ dla jakich a, b c, d, $e \in \mathbf{R}$ układ ma niezerowe rozwiązanie? (Nie rozwiązywać.)