

1.

$$\begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$2. L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{3}{2} & 1 & 0 & 0 \\ -\frac{5}{6} & -\frac{16}{21} & 1 & 0 \\ -\frac{2}{3} & \frac{10}{21} & -\frac{274}{367} & 1 \end{bmatrix}, U = \begin{bmatrix} 6 & 4 & 6 & 4 \\ 0 & -7 & -19 & -4 \\ 0 & 0 & -\frac{367}{21} & -\frac{68}{7} \\ 0 & 0 & 0 & -\frac{2085}{367} \end{bmatrix}$$

3.

$$\begin{pmatrix} 13 & -7 & 10 \\ 12 & 12 & -2 \\ -1 & -17 & 14 \end{pmatrix}$$

4.

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

5.

$$\sigma = (1, 4)(2, 6, 3)(5, 8, 7, 9), \text{ord} = 12, \sigma^{-751} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 3 & 6 & 1 & 8 & 2 & 9 & 7 & 5 \end{pmatrix} = (1, 4)(2, 3, 6)(5, 8, 7, 9)$$

6. Id; (5, 6); (1, 2, 7, 3, 4); (1, 2, 7, 3, 4) (5, 6);

(1, 3, 2, 4, 7); (1, 3, 2, 4, 7) (5, 6); (1, 4, 3, 7, 2); (1, 4, 3, 7, 2) (5, 6); (1, 7, 4, 2, 3);

(1, 7, 4, 2, 3) (5, 6);

$$7. \frac{10(-20)^n}{37} + \frac{27 \cdot 54^n}{37}$$

$$8. 0 + 0 * x + -1 * x^2 + -4 * x^3 + 1 * x^4$$

9. При  $\lambda = 1$

10. Определитель:  $82\lambda - 46$ , при  $\lambda = [23/41]$  ранг равен 3, иначе 4