Ответы: 225 ПИ. Вариант 45

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{9}{2} & 1 & 0 & 0 \\ 1 & -\frac{26}{71} & 1 & 0 \\ 4 & -\frac{66}{71} & \frac{137}{97} & 1 \end{bmatrix}, U = \begin{bmatrix} 2 & -9 & 0 & 8 \\ 0 & -\frac{71}{2} & 5 & 34 \\ 0 & 0 & \frac{485}{71} & \frac{458}{71} \\ 0 & 0 & 0 & -\frac{728}{97} \end{bmatrix}$

3. $$\begin{pmatrix} -2 & -7 & -11 \\ -13 & 5 & -5 \\ 19 & 13 & -16 \end{pmatrix}$$

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

5. $$\sigma = (1,4,3,2,8)(5,6,7,9), ord = 20, \sigma^{-719} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 8 & 2 & 3 & 6 & 7 & 9 & 1 & 5 \end{pmatrix} = (1,4,3,2,8)(5,6,7,9)$$

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

7. $-\frac{2 \cdot 32^n}{3} + \frac{5 \cdot 80^n}{3}$

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

9. При $\lambda = 5$

10. Определитель: $106\lambda + 22$, при $\lambda = [-11/53]$ ранг равен 3, иначе 4