Ответы: 229 ПИ. Вариант 45

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{1}{2} & 1 & 0 & 0 \\ -\frac{7}{8} & -\frac{23}{28} & 1 & 0 \\ \frac{5}{8} & -\frac{75}{28} & \frac{339}{11} & 1 \end{bmatrix}, U = \begin{bmatrix} 8 & -1 & 6 & -5 \\ 0 & \frac{7}{2} & -11 & -\frac{3}{2} \\ 0 & 0 & -\frac{11}{14} & \frac{67}{28} \\ 0 & 0 & 0 & -\frac{920}{11} \end{bmatrix}$

3. $$\begin{pmatrix} 10 & -16 & -9 \\ -16 & 0 & 6 \\ -6 & 13 & 5 \end{pmatrix}$$

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

5. $$\sigma = (1,3,9)(2,5)(4,7)(6,8), ord = 6, \sigma^{-811} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 9 & 5 & 1 & 7 & 2 & 8 & 4 & 6 & 3 \end{pmatrix} = (1,9,3)(2,5)(4,7)(6,8)$$

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

7. $\frac{2(-40)^n}{5} + \frac{3 \cdot 60^n}{5}$

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

9. При $\lambda = 8$

10. Определитель: $39\lambda - 151$, при $\lambda = [151/39]$ ранг равен 3, иначе 4