Ответы: 223 ПИ. Вариант 23

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ \frac{3}{4} & 1 & 1 & 0 \\ -\frac{1}{4} & \frac{3}{5} & \frac{13}{5} & 1 \end{bmatrix}, U = \begin{bmatrix} 4 & 0 & -10 & -2 \\ 0 & -10 & 0 & -7 \\ 0 & 0 & \frac{5}{2} & -\frac{1}{2} \\ 0 & 0 & 0 & 2 \end{bmatrix}$

3. $$\begin{pmatrix} -16 & 1 & 8 \\ 19 & -11 & -2 \\ 9 & 0 & -8 \end{pmatrix}$$

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

5. $$\sigma = (1,2,4,9,3,5,7)(6,8), ord = 14, \sigma^{-773} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 3 & 5 & 2 & 7 & 4 & 8 & 9 & 6 & 1 \end{pmatrix} = (1,3,2,5,4,7,9)(6,8)$$

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

7. $-\frac{2 \cdot 4^n}{19} + \frac{21 \cdot 42^n}{19}$

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

9. При $\lambda = 6$

10. Определитель: $-68\lambda - 664$, при $\lambda = [-166/17]$ ранг равен 3, иначе 4