Ответы: 227 ПИ. Вариант 27

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -2 & 1 & 0 & 0 \\ \frac{5}{3} & 0 & 1 & 0 \\ \frac{2}{3} & -9 & -\frac{61}{6} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 3 & 3 & 6 & -4 \\ 0 & 1 & 20 & -11 \\ 0 & 0 & -18 & \frac{2}{3} \\ 0 & 0 & 0 & -\frac{887}{9} \end{bmatrix}$

3. $$\begin{pmatrix} -10 & 4 & 16 \\ 13 & 1 & 1 \\ -8 & -16 & 10 \end{pmatrix}$$

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

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

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

7. $\frac{9(-54)^n}{8} - \frac{(-6)^n}{8}$

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

9. При $\lambda = 5$

10. Определитель: $90\lambda - 116$, при $\lambda = [58/45]$ ранг равен 3, иначе 4