Ответы: 221 ПИ. Вариант 8

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{9}{4} & 1 & 0 & 0 \\ -1 & -\frac{2}{5} & 1 & 0 \\ \frac{7}{4} & -\frac{7}{5} & \frac{511}{81} & 1 \end{bmatrix}, U = \begin{bmatrix} -4 & 2 & 7 & 1 \\ 0 & -\frac{5}{2} & -\frac{91}{4} & \frac{27}{4} \\ 0 & 0 & -\frac{81}{10} & \frac{127}{10} \\ 0 & 0 & 0 & -\frac{5137}{81} \end{bmatrix}$

3. $$\begin{pmatrix} 4 & 13 & 2 \\ 2 & -16 & 5 \\ -20 & 13 & 8 \end{pmatrix}$$

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

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

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

7. $\frac{5(-20)^n}{8} + \frac{3 \cdot 12^n}{8}$

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

9. При $\lambda = -2$

10. Определитель: $274 - 8\lambda$, при $\lambda = [137/4]$ ранг равен 3, иначе 4