Ответы: 222 ПИ. Вариант 9

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{1}{7} & 1 & 0 & 0 \\ \frac{8}{7} & -\frac{19}{44} & 1 & 0 \\ -\frac{9}{7} & \frac{31}{44} & -\frac{647}{107} & 1 \end{bmatrix}, U = \begin{bmatrix} -7 & -5 & 2 & -7 \\ 0 & -\frac{44}{7} & -\frac{51}{7} & 1 \\ 0 & 0 & -\frac{107}{44} & \frac{679}{44} \\ 0 & 0 & 0 & \frac{7876}{107} \end{bmatrix}$

3. $$\begin{pmatrix} -6 & -7 & -12 \\ -13 & 11 & -14 \\ -10 & 2 & 5 \end{pmatrix}$$

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

5. $$\sigma = (1,4,6,9,5,2,7)(3,8), ord = 14, \sigma^{-797} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 7 & 8 & 6 & 2 & 9 & 1 & 3 & 5 \end{pmatrix} = (1,4,6,9,5,2,7)(3,8)$$

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

7. $\frac{2(-4)^n}{37} + \frac{35 \cdot 70^n}{37}$

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

9. При $\lambda = 8$

10. Определитель: $9\lambda + 40$, при $\lambda = [-40/9]$ ранг равен 3, иначе 4