Ответы: 221 ПИ. Вариант 37

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{8}{9} & 1 & 0 & 0 \\ -\frac{5}{9} & \frac{7}{50} & 1 & 0 \\ -\frac{2}{3} & \frac{21}{50} & -\frac{37}{421} & 1 \end{bmatrix}, U = \begin{bmatrix} -9 & 4 & 0 & 1 \\ 0 & -\frac{50}{9} & 3 & -\frac{89}{9} \\ 0 & 0 & -\frac{421}{50} & \frac{297}{50} \\ 0 & 0 & 0 & \frac{144}{421} \end{bmatrix}$

3. $$\begin{pmatrix} -11 & 17 & -2 \\ -16 & 16 & 3 \\ 14 & 4 & 8 \end{pmatrix}$$

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

5. $$\sigma = (1,7,4)(2,8,9,3,5,6), ord = 6, \sigma^{-827} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 7 & 8 & 5 & 1 & 6 & 2 & 4 & 9 & 3 \end{pmatrix} = (1,7,4)(2,8,9,3,5,6)$$

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

7. $\frac{(-5)^n}{8} + \frac{7 \cdot 35^n}{8}$

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

9. При $\lambda = 9$

10. Определитель: $16\lambda - 674$, при $\lambda = [337/8]$ ранг равен 3, иначе 4