Ответы: 222 ПИ. Вариант 43

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{6}{7} & 1 & 0 & 0 \\ -\frac{3}{7} & \frac{50}{23} & 1 & 0 \\ 1 & -\frac{7}{23} & \frac{142}{783} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -7 & -2 & -8 & -7 \\ 0 & \frac{23}{7} & -\frac{111}{7} & -14 \\ 0 & 0 & \frac{783}{23} & \frac{792}{23} \\ 0 & 0 & 0 & -\frac{914}{87} \end{bmatrix}$

3.
$$\begin{pmatrix} 11 & -5 & 8 \\ 7 & -8 & -1 \\ 4 & -19 & 9 \end{pmatrix}$$

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

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

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

7. брак

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

9. При $\lambda = 7$

10. Определитель: $-20\lambda - 202$, при $\lambda = [-101/10]$ ранг равен 3, иначе 4