Ответы: 226 ПИ. Вариант 2

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{1}{2} & 1 & 0 & 0 \\ \frac{1}{8} & -\frac{23}{28} & 1 & 0 \\ -\frac{1}{2} & \frac{11}{7} & -\frac{131}{40} & 1 \end{bmatrix}, U = \begin{bmatrix} 8 & -7 & 4 & -2 \\ 0 & -\frac{7}{2} & 10 & 3 \\ 0 & 0 & \frac{40}{7} & \frac{75}{7} \\ 0 & 0 & 0 & \frac{203}{8} \end{bmatrix}$

3. $$\begin{pmatrix} -12 & -1 & 6 \\ 11 & -17 & 16 \\ -2 & -12 & 18 \end{pmatrix}$$

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

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

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

7. $\frac{16(-32)^n}{61} + \frac{45 \cdot 90^n}{61}$

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

9. При $\lambda = -1$

10. Определитель: $-231\lambda - 633$, при $\lambda = [-211/77]$ ранг равен 3, иначе 4