Ответы: 222 ПИ. Вариант 31

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -1 & 1 & 0 & 0 \\ \frac{2}{7} & -\frac{1}{6} & 1 & 0 \\ 0 & -\frac{7}{12} & -\frac{1}{16} & 1 \end{bmatrix}, U = \begin{bmatrix} -7 & 7 & 7 & 5 \\ 0 & 12 & 4 & -3 \\ 0 & 0 & -\frac{16}{3} & -\frac{55}{14} \\ 0 & 0 & 0 & \frac{1}{224} \end{bmatrix}$

3. $$\begin{pmatrix} -19 & -3 & -16 \\ 3 & -18 & 6 \\ -15 & -20 & 13 \end{pmatrix}$$

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

5. $$\sigma = (1,8,6)(2,4)(3,5,9,7), ord = 12, \sigma^{-797} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 8 & 4 & 7 & 2 & 3 & 1 & 9 & 6 & 5 \end{pmatrix} = (1,8,6)(2,4)(3,7,9,5)$$

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

7. $\frac{3(-30)^n}{4} + \frac{10^n}{4}$

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

9. При $\lambda = -5$

10. Определитель: $113\lambda + 304$, при $\lambda = [-304/113]$ ранг равен 3, иначе 4