Ответы: 229 ПИ. Вариант 27

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -5 & 1 & 0 & 0 \\ 5 & -\frac{7}{8} & 1 & 0 \\ 7 & -\frac{1}{8} & -\frac{277}{21} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -1 & -1 & -10 & -2 \\ 0 & -8 & -54 & -8 \\ 0 & 0 & -\frac{21}{4} & 0 \\ 0 & 0 & 0 & 16 \end{bmatrix}$

3. $$\begin{pmatrix} 0 & 19 & -12 \\ 19 & 11 & 14 \\ -10 & -17 & -6 \end{pmatrix}$$

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

5. $$\sigma = (1,4,5,7,3)(2,9,8,6), ord = 20, \sigma^{-797} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 7 & 6 & 5 & 3 & 1 & 8 & 4 & 9 & 2 \end{pmatrix} = (1,7,4,3,5)(2,6,8,9)$$

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

7. $-\frac{2 \cdot 36^n}{3} + \frac{5 \cdot 90^n}{3}$

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

9. При $\lambda = 8$

10. Определитель: $2 - 11\lambda$, при $\lambda = [2/11]$ ранг равен 3, иначе 4