Ответы: 227 ПИ. Вариант 45

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{9}{5} & 1 & 0 & 0 \\ \frac{2}{5} & -\frac{23}{61} & 1 & 0 \\ -\frac{2}{5} & -\frac{22}{61} & \frac{261}{137} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 5 & 4 & 9 & -10 \\ 0 & \frac{61}{5} & \frac{31}{5} & -21 \\ 0 & 0 & \frac{411}{61} & -\frac{849}{61} \\ 0 & 0 & 0 & \frac{2732}{137} \end{bmatrix}$

3. $$\begin{pmatrix} -8 & -11 & 11 \\ -17 & 7 & 7 \\ 11 & 16 & -18 \end{pmatrix}$$

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

5. $$\sigma = (1,5,4,3,7,8,9)(2,6), ord = 14, \sigma^{-733} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 6 & 8 & 7 & 3 & 2 & 9 & 1 & 5 \end{pmatrix} = (1,4,7,9,5,3,8)(2,6)$$

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

7. $\frac{8(-24)^n}{17} + \frac{9 \cdot 27^n}{17}$

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

9. При $\lambda = 6$

10. Определитель: $20\lambda - 1026$, при $\lambda = [513/10]$ ранг равен 3, иначе 4