Ответы: 224 ПИ. Вариант 25

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{9}{8} & 1 & 0 & 0 \\ -\frac{3}{8} & \frac{3}{19} & 1 & 0 \\ \frac{7}{8} & -\frac{3}{19} & -\frac{493}{151} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -8 & 4 & -10 & 9 \\ 0 & \frac{19}{2} & -\frac{45}{4} & \frac{105}{8} \\ 0 & 0 & -\frac{151}{38} & -\frac{281}{76} \\ 0 & 0 & 0 & -\frac{1642}{151} \end{bmatrix}$

3. $$\begin{pmatrix} 11 & 11 & -14 \\ -10 & -18 & -15 \\ -3 & 14 & -12 \end{pmatrix}$$

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

5. $$\sigma = (1,9,3,7)(2,4,8,5,6), ord = 20, \sigma^{-743} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 9 & 8 & 7 & 5 & 2 & 4 & 1 & 6 & 3 \end{pmatrix} = (1,9,3,7)(2,8,6,4,5)$$

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

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

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

9. При $\lambda = -4$

10. Определитель: $48\lambda + 158$, при $\lambda = [-79/24]$ ранг равен 3, иначе 4