Ответы: 221 ПИ. Вариант 11

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{2}{7} & 1 & 0 & 0 \\ -\frac{8}{7} & \frac{53}{36} & 1 & 0 \\ \frac{5}{7} & -\frac{19}{9} & -\frac{116}{43} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -7 & 4 & 2 & -8 \\ 0 & \frac{36}{7} & -\frac{10}{7} & \frac{33}{7} \\ 0 & 0 & \frac{43}{18} & -\frac{109}{12} \\ 0 & 0 & 0 & -\frac{337}{43} \end{bmatrix}$

3. $$\begin{pmatrix} 2 & 5 & -5 \\ -6 & -14 & -12 \\ 15 & 14 & -18 \end{pmatrix}$$

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

5. $$\sigma = (1,8,6,2,7,5,4)(3,9), ord = 14, \sigma^{-743} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 6 & 9 & 5 & 7 & 8 & 2 & 1 & 3 \end{pmatrix} = (1,4,5,7,2,6,8)(3,9)$$

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

7. $\frac{5 \cdot 15^n}{2} - \frac{3 \cdot 9^n}{2}$

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

9. При $\lambda = -6$

10. Определитель: $102\lambda - 636$, при $\lambda = [106/17]$ ранг равен 3, иначе 4