Ответы: 225 ПИ. Вариант 6

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{1}{8} & 1 & 0 & 0 \\ \frac{3}{8} & \frac{67}{71} & 1 & 0 \\ -\frac{1}{8} & -\frac{73}{71} & -35 & 1 \end{bmatrix}$, $U = \begin{bmatrix} 8 & 9 & 4 & -9 \\ 0 & -\frac{71}{8} & -\frac{1}{2} & \frac{15}{8} \\ 0 & 0 & -\frac{2}{71} & \frac{256}{71} \\ 0 & 0 & 0 & 130 \end{bmatrix}$

3. $$\begin{pmatrix} 1 & 5 & -9 \\ -1 & -15 & 0 \\ -18 & 6 & -18 \end{pmatrix}$$

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

5. $$\sigma = (1,8,6,5,2,3,7)(4,9), ord = 14, \sigma^{-727} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 8 & 3 & 7 & 9 & 2 & 5 & 1 & 6 & 4 \end{pmatrix} = (1,8,6,5,2,3,7)(4,9)$$

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

7. $\frac{8(-8)^n}{15} + \frac{7 \cdot 7^n}{15}$

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

9. При $\lambda = 3$

10. Определитель: $-120\lambda - 280$, при $\lambda = [-7/3]$ ранг равен 3, иначе 4