Ответы: 228 ПИ. Вариант 22

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ \frac{5}{6} & -\frac{5}{27} & 1 & 0 \\ \frac{5}{6} & -\frac{32}{27} & -\frac{103}{95} & 1 \end{bmatrix}, U = \begin{bmatrix} -6 & -8 & 7 & -3 \\ 0 & -9 & 3 & 7 \\ 0 & 0 & -\frac{95}{18} & -\frac{119}{54} \\ 0 & 0 & 0 & \frac{2966}{285} \end{bmatrix}$

3. $$\begin{pmatrix} -10 & 12 & -17 \\ -17 & -3 & 18 \\ 5 & -17 & 14 \end{pmatrix}$$

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

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

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

7. $\frac{49(-49)^n}{57} + \frac{8 \cdot 8^n}{57}$

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

9. При $\lambda = 8$

10. Определитель: $-52\lambda - 424$, при $\lambda = [-106/13]$ ранг равен 3, иначе 4