Ответы: 222 ПИ. Вариант 40

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{1}{3} & 1 & 0 & 0 \\ -1 & \frac{21}{13} & 1 & 0 \\ -1 & \frac{24}{13} & \frac{246}{199} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -3 & -1 & -4 & -9 \\ 0 & -\frac{13}{3} & -\frac{34}{3} & -5 \\ 0 & 0 & \frac{199}{13} & -\frac{77}{13} \\ 0 & 0 & 0 & \frac{1304}{199} \end{bmatrix}$

3. $$\begin{pmatrix} -10 & -10 & 6 \\ 9 & -2 & 11 \\ 15 & -2 & -1 \end{pmatrix}$$

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

5. $$\sigma = (1,5,9,6,2)(3,7,4,8), ord = 20, \sigma^{-727} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 6 & 9 & 7 & 8 & 2 & 5 & 4 & 3 & 1 \end{pmatrix} = (1,6,5,2,9)(3,7,4,8)$$

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

7. $\frac{5(-30)^n}{9} + \frac{4 \cdot 24^n}{9}$

8. $0 + -1 * x + 4 * x^2 + -1 * x^3 + 1 * x^4$

9. При $\lambda = 0$

10. Определитель: $4\lambda - 168$, при $\lambda = [42]$ ранг равен 3, иначе 4