Ответы: 223 ПИ. Вариант 41

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 9 & -\frac{37}{3} & 1 & 0 \\ 4 & -\frac{29}{6} & \frac{97}{154} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 1 & 9 & 3 & 6 \\ 0 & 6 & 5 & 1 \\ 0 & 0 & \frac{77}{3} & -\frac{143}{3} \\ 0 & 0 & 0 & \frac{20}{7} \end{bmatrix}$

3. $$\begin{pmatrix} -2 & 7 & 11 \\ -10 & 19 & -3 \\ -8 & -4 & 15 \end{pmatrix}$$

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

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

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

7. $-\frac{40 \cdot 40^n}{41} + \frac{81 \cdot 81^n}{41}$

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

9. При $\lambda = -9$

10. Определитель: $34 - 20\lambda$, при $\lambda = [17/10]$ ранг равен 3, иначе 4