Ответы: 224 ПИ. Вариант 10

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -3 & 1 & 0 & 0 \\ -3 & \frac{7}{17} & 1 & 0 \\ \frac{7}{3} & -\frac{43}{51} & \frac{977}{378} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 3 & 4 & -8 & -7 \\ 0 & 17 & -33 & -25 \\ 0 & 0 & -\frac{126}{17} & -\frac{97}{17} \\ 0 & 0 & 0 & \frac{1513}{378} \end{bmatrix}$

3. $$\begin{pmatrix} -11 & -8 & -9 \\ -4 & -10 & -15 \\ -17 & 3 & 10 \end{pmatrix}$$

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

5. $$\sigma = (1,4,7,5)(2,9)(3,6,8), ord = 12, \sigma^{-751} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 9 & 8 & 7 & 1 & 3 & 5 & 6 & 2 \end{pmatrix} = (1,4,7,5)(2,9)(3,8,6)$$

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

7. $\frac{9(-54)^n}{8} - \frac{(-6)^n}{8}$

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

9. При $\lambda = 3$

10. Определитель: $24\lambda + 444$, при $\lambda = [-37/2]$ ранг равен 3, иначе 4