Ответы: 222 ПИ. Вариант 3

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 2 & 1 & 0 & 0 \\ 2 & \frac{13}{10} & 1 & 0 \\ \frac{4}{3} & \frac{7}{15} & \frac{29}{9} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 3 & 8 & 0 & -7 \\ 0 & -10 & 4 & 16 \\ 0 & 0 & -\frac{6}{5} & -\frac{14}{5} \\ 0 & 0 & 0 & \frac{26}{9} \end{bmatrix}$

3. $$\begin{pmatrix} -17 & 0 & 18 \\ 17 & -7 & -7 \\ 10 & -8 & 16 \end{pmatrix}$$

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

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

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

7. $\frac{3(-27)^n}{5} + \frac{2 \cdot 18^n}{5}$

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

9. При $\lambda = 1$

10. Определитель: $47\lambda - 594$, при $\lambda = [594/47]$ ранг равен 3, иначе 4