Ответы: 227 ПИ. Вариант 4

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{4}{9} & 1 & 0 & 0 \\ \frac{8}{9} & \frac{17}{40} & 1 & 0 \\ -\frac{2}{9} & \frac{7}{40} & -\frac{67}{43} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 9 & -8 & -2 & 9 \\ 0 & -\frac{40}{9} & \frac{44}{9} & 2 \\ 0 & 0 & -\frac{43}{10} & -\frac{237}{20} \\ 0 & 0 & 0 & -\frac{938}{43} \end{bmatrix}$

3. $$\begin{pmatrix} 14 & -17 & 15 \\ -4 & -7 & 16 \\ 11 & -14 & -11 \end{pmatrix}$$

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

5. $$\sigma = (1,5,9)(2,8,6)(3,7,4), ord = 3, \sigma^{-821} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 5 & 8 & 7 & 3 & 9 & 2 & 4 & 6 & 1 \end{pmatrix} = (1,5,9)(2,8,6)(3,7,4)$$

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

7. $\frac{16(-32)^n}{25} + \frac{9 \cdot 18^n}{25}$

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

9. При $\lambda = -5$

10. Определитель: -44λ, при $\lambda = [0]$ ранг равен 3, иначе 4