Ответы: 226 ПИ. Вариант 3

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{5}{2} & 1 & 0 & 0 \\ 2 & \frac{1}{10} & 1 & 0 \\ \frac{9}{2} & -\frac{1}{2} & \frac{595}{131} & 1 \end{bmatrix}, U = \begin{bmatrix} -2 & -2 & -7 & -5 \\ 0 & -10 & -\frac{31}{2} & -\frac{29}{2} \\ 0 & 0 & \frac{131}{20} & \frac{29}{20} \\ 0 & 0 & 0 & \frac{1790}{131} \end{bmatrix}$

3. $$\begin{pmatrix} 7 & -13 & 12 \\ -14 & 8 & -12 \\ -8 & -17 & -19 \end{pmatrix}$$

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

5. $$\sigma = (1,5)(2,6)(3,9)(4,8,7), ord = 6, \sigma^{-823} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 5 & 6 & 9 & 7 & 1 & 2 & 8 & 4 & 3 \end{pmatrix} = (1,5)(2,6)(3,9)(4,7,8)$$

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

7. $-\frac{3(-3)^n}{4} + \frac{7(-7)^n}{4}$

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

9. При $\lambda = -1$

10. Определитель: $468 - 73\lambda$, при $\lambda = [468/73]$ ранг равен 3, иначе 4