Ответы: 228 ПИ. Вариант 1

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{4}{7} & 1 & 0 & 0 \\ \frac{9}{7} & \frac{1}{14} & 1 & 0 \\ \frac{1}{7} & -\frac{3}{7} & \frac{481}{705} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -7 & -7 & -6 & 7 \\ 0 & -14 & \frac{32}{7} & 10 \\ 0 & 0 & \frac{705}{49} & -\frac{131}{7} \\ 0 & 0 & 0 & \frac{5678}{705} \end{bmatrix}$

3. $$\begin{pmatrix} -20 & 4 & 9 \\ 2 & 2 & 18 \\ -14 & -2 & 13 \end{pmatrix}$$

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

5. $$\sigma = (1,5)(2,4,7,8,3,6,9), ord = 14, \sigma^{-719} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 5 & 7 & 9 & 8 & 1 & 2 & 3 & 6 & 4 \end{pmatrix} = (1,5)(2,7,3,9,4,8,6)$$

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

7. $\frac{2(-18)^n}{7} + \frac{5 \cdot 45^n}{7}$

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

9. При $\lambda = 6$

10. Определитель: $12\lambda - 150$, при $\lambda = [25/2]$ ранг равен 3, иначе 4