Ответы: 221 ПИ. Вариант 19

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -1 & 1 & 0 & 0 \\ -\frac{2}{5} & -\frac{9}{5} & 1 & 0 \\ \frac{6}{5} & -\frac{8}{5} & \frac{71}{43} & 1 \end{bmatrix}, U = \begin{bmatrix} 5 & -3 & 0 & 5 \\ 0 & -1 & -7 & 5 \\ 0 & 0 & -\frac{43}{5} & 2 \\ 0 & 0 & 0 & \frac{288}{43} \end{bmatrix}$

3.
$$\begin{pmatrix} -19 & 17 & 17 \\ -20 & 0 & -12 \\ -9 & 5 & 2 \end{pmatrix}$$

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

5.
$$\sigma = (1,3,7)(2,6,9,4)(5,8), ord = 12, \sigma^{-727} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 7 & 6 & 1 & 2 & 8 & 9 & 3 & 5 & 4 \end{pmatrix} = (1,7,3)(2,6,9,4)(5,8)$$

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

7. $\frac{27(-27)^n}{35} + \frac{8 \cdot 8^n}{35}$

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

9. При $\lambda = 7$

10. Определитель: $-8\lambda - 10$, при $\lambda = [-5/4]$ ранг равен 3, иначе 4