Ответы: 221 ПИ. Вариант 3

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{7}{5} & 1 & 0 & 0 \\ 1 & -\frac{10}{17} & 1 & 0 \\ \frac{8}{5} & -\frac{18}{17} & -\frac{3}{38} & 1 \end{bmatrix}, U = \begin{bmatrix} 5 & -7 & -1 & 5 \\ 0 & -\frac{34}{5} & \frac{13}{5} & 14 \\ 0 & 0 & -\frac{76}{17} & -\frac{13}{17} \\ 0 & 0 & 0 & -\frac{47}{38} \end{bmatrix}$

3. $$\begin{pmatrix} -18 & 18 & -9 \\ 19 & -1 & -13 \\ 16 & 8 & -5 \end{pmatrix}$$

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

5. $$\sigma = (1,3,2,9,7)(4,5,8,6), ord = 20, \sigma^{-733} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 2 & 7 & 9 & 6 & 4 & 8 & 3 & 5 & 1 \end{pmatrix} = (1,2,7,3,9)(4,6,8,5)$$

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. $\frac{3(-45)^n}{4} + \frac{15^n}{4}$

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

9. При $\lambda = -9$

10. Определитель: $26\lambda - 72$, при $\lambda = [36/13]$ ранг равен 3, иначе 4