Ответы: 221 ПИ. Вариант 14

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{1}{5} & 1 & 0 & 0 \\ -\frac{4}{5} & -6 & 1 & 0 \\ \frac{1}{5} & 2 & -\frac{8}{35} & 1 \end{bmatrix}, U = \begin{bmatrix} -5 & -10 & -7 & 7 \\ 0 & 1 & -\frac{2}{5} & \frac{7}{5} \\ 0 & 0 & -14 & 11 \\ 0 & 0 & 0 & -\frac{234}{35} \end{bmatrix}$

3. $$\begin{pmatrix} 5 & 0 & 18 \\ 2 & -8 & 0 \\ 11 & -9 & -8 \end{pmatrix}$$

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

5. $$\sigma = (1,5,2,7,4,8,6)(3,9), ord = 14, \sigma^{-811} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 5 & 7 & 9 & 8 & 2 & 1 & 4 & 6 & 3 \end{pmatrix} = (1,5,2,7,4,8,6)(3,9)$$

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

7. $\frac{9(-72)^n}{8} - \frac{(-8)^n}{8}$

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

9. При $\lambda = 4$

10. Определитель: $160 - 68\lambda$, при $\lambda = [40/17]$ ранг равен 3, иначе 4