Ответы: 228 ПИ. Вариант 16

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{4}{9} & 1 & 0 & 0 \\ \frac{1}{3} & \frac{6}{7} & 1 & 0 \\ \frac{2}{3} & \frac{33}{14} & -\frac{163}{68} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -9 & -2 & 3 & 6 \\ 0 & \frac{28}{9} & -\frac{11}{3} & \frac{8}{3} \\ 0 & 0 & -\frac{34}{7} & -\frac{100}{7} \\ 0 & 0 & 0 & -\frac{791}{17} \end{bmatrix}$

3. $$\begin{pmatrix} 0 & 19 & -5 \\ 17 & -13 & 1 \\ -7 & 3 & -20 \end{pmatrix}$$

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

5. $$\sigma = (1,3,6,7,4,5,8)(2,9), ord = 14, \sigma^{-787} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 4 & 9 & 5 & 3 & 6 & 8 & 1 & 7 & 2 \end{pmatrix} = (1,4,3,5,6,8,7)(2,9)$$

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

7. $\frac{2(-20)^n}{11} + \frac{9 \cdot 90^n}{11}$

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

9. При $\lambda = 7$

10. Определитель: $134 - 12\lambda$, при $\lambda = [67/6]$ ранг равен 3, иначе 4