Ответы: 221 ПИ. Вариант 40

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{2}{7} & 1 & 0 & 0 \\ -\frac{3}{7} & -\frac{39}{58} & 1 & 0 \\ -\frac{2}{7} & \frac{51}{58} & -\frac{63}{55} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -7 & -8 & 9 & -7 \\ 0 & -\frac{58}{7} & -\frac{38}{7} & 0 \\ 0 & 0 & -\frac{110}{29} & -7 \\ 0 & 0 & 0 & -\frac{221}{55} \end{bmatrix}$

3. $$\begin{pmatrix} 9 & 12 & 4 \\ 18 & 0 & -4 \\ 18 & -12 & -19 \end{pmatrix}$$

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

5. $$\sigma = (1,6,3,5)(2,7,4)(8,9), ord = 12, \sigma^{-787} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 6 & 4 & 5 & 7 & 1 & 3 & 2 & 9 & 8 \end{pmatrix} = (1,6,3,5)(2,4,7)(8,9)$$

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

7. $\frac{9(-45)^n}{19} + \frac{10 \cdot 50^n}{19}$

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

9. При $\lambda = 8$

10. Определитель: $208\lambda - 1180$, при $\lambda = [295/52]$ ранг равен 3, иначе 4