Ответы: 224 ПИ. Вариант 5

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{7}{9} & 1 & 0 & 0 \\ -\frac{7}{9} & \frac{37}{73} & 1 & 0 \\ -\frac{1}{3} & \frac{75}{73} & \frac{445}{677} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 9 & -4 & -2 & 0 \\ 0 & -\frac{73}{9} & -\frac{68}{9} & 4 \\ 0 & 0 & \frac{677}{73} & -\frac{878}{73} \\ 0 & 0 & 0 & -\frac{815}{677} \end{bmatrix}$

3. $$\begin{pmatrix} -7 & -5 & 7 \\ 6 & -14 & -2 \\ 5 & 9 & 5 \end{pmatrix}$$

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

5. $$\sigma = (1,7,6,4,3,8)(2,9,5), ord = 6, \sigma^{-797} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 7 & 9 & 8 & 3 & 2 & 4 & 6 & 1 & 5 \end{pmatrix} = (1,7,6,4,3,8)(2,9,5)$$

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

7. $\frac{27(-81)^n}{41} + \frac{14 \cdot 42^n}{41}$

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

9. При $\lambda = 0$

10. Определитель: $76 - 38\lambda$, при $\lambda = [2]$ ранг равен 3, иначе 4