Ответы: 221 ПИ. Вариант 10

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{2}{9} & 1 & 0 & 0 \\ \frac{2}{3} & -\frac{12}{31} & 1 & 0 \\ \frac{8}{9} & \frac{119}{31} & \frac{514}{37} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 9 & -7 & -6 & -3 \\ 0 & \frac{31}{9} & -\frac{28}{3} & \frac{4}{3} \\ 0 & 0 & \frac{74}{31} & \frac{78}{31} \\ 0 & 0 & 0 & -\frac{1717}{37} \end{bmatrix}$

3. $$\begin{pmatrix} 8 & 1 & 12 \\ -11 & 4 & 4 \\ -2 & 17 & -7 \end{pmatrix}$$

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

5. $$\sigma = (1,3,4,6,7,8)(2,9,5), ord = 6, \sigma^{-827} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 3 & 9 & 4 & 6 & 2 & 7 & 8 & 1 & 5 \end{pmatrix} = (1,3,4,6,7,8)(2,9,5)$$

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

7. брак

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

9. При $\lambda = 0$

10. Определитель: $8-26\lambda$, при $\lambda = [4/13]$ ранг равен 3, иначе 4