Ответы: 228 ПИ. Вариант 13

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{1}{6} & 1 & 0 & 0 \\ \frac{1}{2} & \frac{23}{9} & 1 & 0 \\ -1 & 0 & -\frac{81}{67} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 6 & 9 & 9 & -9 \\ 0 & -\frac{9}{2} & \frac{7}{2} & \frac{17}{2} \\ 0 & 0 & -\frac{67}{9} & -\frac{200}{9} \\ 0 & 0 & 0 & -\frac{2537}{67} \end{bmatrix}$

3. $$\begin{pmatrix} -18 & 18 & -4 \\ -17 & 0 & -6 \\ 18 & -13 & -16 \end{pmatrix}$$

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

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

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

7. $-(-10)^n + 2(-20)^n$

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

9. При $\lambda = -6$

10. Определитель: $4\lambda + 222$, при $\lambda = [-111/2]$ ранг равен 3, иначе 4