Ответы: 228 ПИ. Вариант 12

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{6}{5} & 1 & 0 & 0 \\ \frac{2}{5} & \frac{1}{3} & 1 & 0 \\ \frac{7}{5} & -\frac{22}{9} & \frac{14}{3} & 1 \end{bmatrix}, U = \begin{bmatrix} -5 & -1 & 0 & 3 \\ 0 & -\frac{9}{5} & 6 & -\frac{28}{5} \\ 0 & 0 & 4 & \frac{5}{3} \\ 0 & 0 & 0 & -\frac{80}{3} \end{bmatrix}$

3. $$\begin{pmatrix} -20 & -18 & -6 \\ 7 & -6 & -5 \\ -7 & -4 & -3 \end{pmatrix}$$

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

5. $$\sigma = (1,6,2,7)(3,8,9)(4,5), ord = 12, \sigma^{-827} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 6 & 7 & 8 & 5 & 4 & 2 & 1 & 9 & 3 \end{pmatrix} = (1,6,2,7)(3,8,9)(4,5)$$

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

7. $-\frac{16(-32)^n}{5} + \frac{21(-42)^n}{5}$

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

9. При $\lambda = 6$

10. Определитель: $-4\lambda - 84$, при $\lambda = [-21]$ ранг равен 3, иначе 4