Ответы: 222 ПИ. Вариант 38

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{7}{4} & 1 & 0 & 0 \\ \frac{1}{2} & \frac{4}{43} & 1 & 0 \\ \frac{7}{4} & \frac{19}{43} & \frac{122}{37} & 1 \end{bmatrix}, U = \begin{bmatrix} 4 & -10 & -3 & -8 \\ 0 & \frac{43}{2} & \frac{21}{4} & 5 \\ 0 & 0 & \frac{259}{86} & \frac{238}{43} \\ 0 & 0 & 0 & \frac{57}{37} \end{bmatrix}$

3. $$\begin{pmatrix} -20 & 9 & -10 \\ -6 & 4 & -18 \\ -2 & 0 & -14 \end{pmatrix}$$

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

5. $$\sigma = (1,3,8)(2,4,6,9,5,7), ord = 6, \sigma^{-727} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 8 & 7 & 1 & 2 & 9 & 4 & 5 & 3 & 6 \end{pmatrix} = (1,8,3)(2,7,5,9,6,4)$$

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

7. $\frac{49(-49)^n}{85} + \frac{36 \cdot 36^n}{85}$

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

9. При $\lambda = 7$

10. Определитель: $-5\lambda - 169$, при $\lambda = [-169/5]$ ранг равен 3, иначе 4