Ответы: 222 ПИ. Вариант 36

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{1}{9} & 1 & 0 & 0 \\ -1 & -\frac{9}{13} & 1 & 0 \\ -\frac{1}{9} & \frac{19}{26} & \frac{82}{53} & 1 \end{bmatrix}$, $U = \begin{bmatrix} -9 & 7 & 3 & -6 \\ 0 & -\frac{52}{9} & -\frac{4}{3} & \frac{17}{3} \\ 0 & 0 & \frac{53}{13} & \frac{38}{13} \\ 0 & 0 & 0 & -\frac{1625}{106} \end{bmatrix}$

3. $$\begin{pmatrix} -4 & -8 & 1 \\ 7 & -5 & 6 \\ -8 & 18 & -13 \end{pmatrix}$$

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

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

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

7. $\frac{3(-54)^n}{5} + \frac{2 \cdot 36^n}{5}$

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

9. При $\lambda = -1$

10. Определитель: $110\lambda - 425$, при $\lambda = [85/22]$ ранг равен 3, иначе 4