Ответы: 2210 ПИ. Вариант 30

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{8}{3} & 1 & 0 & 0 \\ \frac{5}{3} & \frac{34}{67} & 1 & 0 \\ \frac{7}{3} & \frac{47}{67} & -\frac{191}{117} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 3 & -5 & 4 & -1 \\ 0 & \frac{67}{3} & -\frac{38}{3} & -\frac{4}{3} \\ 0 & 0 & -\frac{351}{67} & -\frac{44}{67} \\ 0 & 0 & 0 & \frac{959}{117} \end{bmatrix}$

3. $$\begin{pmatrix} -9 & -16 & -12 \\ 16 & 1 & -5 \\ 9 & -11 & -9 \end{pmatrix}$$

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

5. $$\sigma = (1,6,3,8)(2,5,7,9,4), ord = 20, \sigma^{-821} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 8 & 4 & 6 & 9 & 2 & 1 & 5 & 3 & 7 \end{pmatrix} = (1,8,3,6)(2,4,9,7,5)$$

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

7. $\frac{4(-8)^n}{13} + \frac{9 \cdot 18^n}{13}$

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

9. При $\lambda = -10$

10. Определитель: $-210\lambda - 544$, при $\lambda = [-272/105]$ ранг равен 3, иначе 4