Ответы: 228 ПИ. Вариант 20

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ \frac{10}{7} & 1 & 0 & 0 \\ -\frac{3}{7} & -\frac{15}{43} & 1 & 0 \\ -\frac{8}{7} & -\frac{12}{43} & -\frac{117}{58} & 1 \end{bmatrix}, U = \begin{bmatrix} -7 & 2 & 2 & 5 \\ 0 & \frac{43}{7} & \frac{15}{7} & -\frac{120}{7} \\ 0 & 0 & -\frac{232}{43} & -\frac{552}{43} \\ 0 & 0 & 0 & -\frac{492}{29} \end{bmatrix}$

3. $$\begin{pmatrix} 11 & -7 & 14 \\ 0 & -8 & 18 \\ -18 & -9 & -11 \end{pmatrix}$$

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

5. $$\sigma = (1,9)(2,6,7)(3,4,5,8), ord = 12, \sigma^{-719} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 9 & 6 & 4 & 5 & 8 & 7 & 2 & 3 & 1 \end{pmatrix} = (1,9)(2,6,7)(3,4,5,8)$$

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

7. $-\frac{8(-16)^n}{17} + \frac{25(-50)^n}{17}$

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

9. При $\lambda = 9$

10. Определитель: $91\lambda + 119$, при $\lambda = [-17/13]$ ранг равен 3, иначе 4