Ответы: 228 ПИ. Вариант 8

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{4}{9} & 1 & 0 & 0 \\ -\frac{2}{9} & -\frac{76}{91} & 1 & 0 \\ -\frac{8}{9} & \frac{38}{91} & \frac{1051}{82} & 1 \end{bmatrix}$, $U = \begin{bmatrix} 9 & 7 & 8 & 6 \\ 0 & \frac{91}{9} & -\frac{31}{9} & -\frac{4}{3} \\ 0 & 0 & \frac{82}{91} & -\frac{799}{91} \\ 0 & 0 & 0 & \frac{9301}{82} \end{bmatrix}$

3. $$\begin{pmatrix} -20 & 9 & 1 \\ -10 & -8 & 5 \\ -3 & 1 & -5 \end{pmatrix}$$

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

5. $$\sigma = (1,5,3,6,2)(4,8,7,9), ord = 20, \sigma^{-787} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 6 & 3 & 1 & 8 & 2 & 5 & 9 & 7 & 4 \end{pmatrix} = (1,6,5,2,3)(4,8,7,9)$$

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

7. $-5 \cdot 40^n + 6 \cdot 48^n$

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

9. При $\lambda = -7$

10. Определитель: $17 - 60\lambda$, при $\lambda = [17/60]$ ранг равен 3, иначе 4