Ответы: 225 ПИ. Вариант 40

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

2. $L = \begin{bmatrix} 1 & 0 & 0 & 0 \\ -\frac{3}{5} & 1 & 0 & 0 \\ -\frac{4}{5} & -1 & 1 & 0 \\ -\frac{2}{5} & \frac{11}{4} & -\frac{15}{2} & 1 \end{bmatrix}, U = \begin{bmatrix} 5 & -5 & -2 & 7 \\ 0 & -4 & \frac{24}{5} & -\frac{9}{5} \\ 0 & 0 & \frac{16}{5} & \frac{19}{5} \\ 0 & 0 & 0 & \frac{113}{4} \end{bmatrix}$

3. $$\begin{pmatrix} 4 & -12 & -8 \\ -18 & -3 & 11 \\ -19 & -18 & -13 \end{pmatrix}$$

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

5. $$\sigma = (1,9,7,5)(2,6,4)(3,8), ord = 12, \sigma^{-727} = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 9 & 4 & 8 & 6 & 1 & 2 & 5 & 3 & 7 \end{pmatrix} = (1,9,7,5)(2,4,6)(3,8)$$

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

7. $-(-24)^n + 2(-48)^n$

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

9. При $\lambda = -6$

10. Определитель: $30\lambda + 40$, при $\lambda = [-4/3]$ ранг равен 3, иначе 4