

Овсянникова Вариант 10	
N	Ответ
1	УСИК
2	В - 101 Г - 00 Д - 100 Е - 01 Ж - 111 З - 1100 И - 1101
3	243
4	$(-3, 2, 3)$

①  $e = 19, m = 39$

$(18; 7; 10; 12)$

$de = 1 \bmod \varphi(m)$

$\varphi(39) = \varphi(3) \cdot \varphi(13) =$   
 $= 2 \cdot 12 = 24$

$19d = 1 \bmod 24$

$19d + 24y = 1$

$\begin{cases} d = -5 \\ y = 4 \end{cases}$

$d = -5 \bmod 24 = 19$

2.  $18; 7; 10; 12$

$18^{19} \bmod 39 = 21$

$7^{19} \bmod 39 = 19$

$10^{19} \bmod 39 = 10$

$12^{19} \bmod 39 = 12$

3.  $21; 19; 10; 12$

y C U K

Ответ: ycyk



② B: 54 ; Г: 89 ; A: 53 ; E: 94 ; X: 68 ;  
 3: 14 ; U: 52

1. 94(E), 89(Г), 68(X), 54(B), 53(A), 52(U),  
 14(3)

94(E), 89(Г), 68(X), 66(U3), 54(B), 53(A)  
 107(BA), 94(E), 89(Г), 68(X), 66(U3)  
 134(XU3), 107(BA), 94(E), 89(Г)  
 183(EG), 134(XU3), 107(BA)  
 241(XU3BA), 183(EG)

2. 0(EG), 1(XU3BA)

0(EG), 10(BA), 11(XU3)

00(Г), 01(E), 10(BA), 11(XU3)

00(Г), 01(E), 100(A), 101(B), 110(U3), 111(X)

00(Г), 01(E), 100(A), 101(B), 1100(3), 1101(U),  
 111(X)

3. B - 101  
 Г - 00  
 A - 100  
 E - 01  
 X - 111  
 3 - 1100  
 U - 1101

} Ответ



3. Ког. Грәл: 1000 1010

0: 1      4:  $1+0+0+0+1=0$

1:  $1+0=1$       5:  $1+0+0+0+1+0=0$

2:  $1+0+0=1$       6:  $1+0+0+0+1+0+1=1$

3:  $1+0+0+0=1$       7:  $1+0+0+0+1+0+1+0=1$

$\begin{matrix} 7 & 6 & 5 & 4 & 3 & 2 & 1 & 0 \\ 1 & 1 & 1 & 1 & 0 & 0 & 1 & 1 \end{matrix} = 128 + 64 + 32 + 16 + 2 + 1 =$

$= 243$

Омбем: 243

④  $y \quad x \quad q_0 + q_1 x + q_2 x^2 + q_3 x^3 = (x-d)y$

$\begin{matrix} 2 \\ 4 \end{matrix} \quad \begin{matrix} 0 \\ 1 \end{matrix} \quad \text{⑥) } x=0: \quad q_0 = -2d$

$\begin{matrix} 3 \\ 0 \\ 3 \end{matrix} \quad \begin{matrix} 2 \\ 3 \\ 4 \end{matrix} \quad \text{①) } x=1: \quad q_0 + q_1 + q_2 + q_3 = (1-d)4$

②)  $x=2: \quad q_0 + 2q_1 + 4q_2 + 8q_3 = (2-d)3$

③)  $x=3$  или  $x=-2: \quad q_0 - 2q_1 + 4q_2 - 8q_3 = (-2-d)0$

④)  $x=4$  или  $x=-1: \quad q_0 - q_1 + q_2 - q_3 = (-1-d)3$

Решим систему:

$$\begin{cases} q_0 + 2d = 0 \\ q_0 + 2q_1 + 4q_2 + 8q_3 + 3d = 6 \\ q_0 - 2q_1 + 4q_2 - 8q_3 = 0 \\ q_0 - q_1 + q_2 - q_3 + 3d = -3 \\ q_0 + q_1 + q_2 + q_3 - 4d = 4 \end{cases}$$

$$\begin{cases} q_0 + 2d = 0 \\ 2q_1 + 4q_2 + 8q_3 + d = 6 \\ 8q_2 - d = 6 \\ 3q_3 + \frac{15}{8}d = -\frac{9}{4} \\ -\frac{19}{4}d = -\frac{1}{2} \end{cases} \Rightarrow$$

$$\begin{aligned} q_0 &= -\frac{4}{19} \bmod 5 = 4 \\ \Rightarrow q_1 &= \frac{89}{19} \bmod 5 = 1 \\ q_2 &= \frac{29}{38} \bmod 5 = 3 \end{aligned}$$

$$q_3 = -\frac{31}{38} \bmod 5 = 3$$

$$d = \frac{2}{19} \bmod 5 = 3$$



$$D(x) = x - 3 = x + 2$$

$$\begin{array}{r|l} 3x^3 + 3x^2 + x + 4 & x + 2 \\ - 3x^3 + x^2 & \\ \hline & 3x^2 + 2x - 3 \end{array}$$

$$\begin{array}{r} 2x^2 + x \\ - 2x^2 + 4x \\ \hline \end{array}$$

$$\begin{array}{r} -3x + 4 \\ - 3x + 4 \\ \hline 0 \end{array}$$

Antwort:  $(-3, 2, 3)$