

SBÍRKA SOUSTAV

Řešte nad \mathbb{Z}_2 :

(1)

$$\left(\begin{array}{ccc|c} 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 \\ 1 & 0 & 0 & 1 \end{array} \right)$$

(2)

$$\left(\begin{array}{ccc|c} 0 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 \\ 1 & 0 & 0 & 0 \end{array} \right)$$

(3)

$$\left(\begin{array}{ccc|c} 1 & 0 & 1 & 1 \\ 1 & 1 & 0 & 0 \\ 1 & 0 & 0 & 1 \end{array} \right)$$

(4)

$$\left(\begin{array}{ccc|c} 0 & 0 & 1 & 1 \\ 1 & 1 & 1 & 1 \\ 1 & 0 & 1 & 0 \end{array} \right)$$

(5)

$$\left(\begin{array}{ccc|c} 1 & 0 & 0 & 0 \\ 1 & 1 & 0 & 1 \\ 1 & 0 & 0 & 0 \end{array} \right)$$

(6)

$$\left(\begin{array}{cccc|c} 0 & 1 & 1 & 0 & 1 \\ 1 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 \end{array} \right)$$

(7)

$$\left(\begin{array}{cccc|c} 0 & 1 & 1 & 1 & 0 \\ 1 & 0 & 1 & 0 & 1 \\ 1 & 0 & 0 & 1 & 1 \end{array} \right)$$

(8)

$$\left(\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 1 & 1 \\ 1 & 1 & 1 & 1 & 0 \end{array} \right)$$

(9)

$$\left(\begin{array}{cccc|c} 1 & 1 & 0 & 0 & 1 \\ 1 & 0 & 1 & 0 & 1 \\ 1 & 1 & 1 & 0 & 1 \end{array} \right)$$

(10)

$$\left(\begin{array}{cccc|c} 1 & 0 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 & 1 \\ 0 & 1 & 0 & 1 & 1 \end{array} \right)$$

(11)

$$\left(\begin{array}{ccccc|c} 1 & 0 & 1 & 0 & 1 & 0 \\ 1 & 1 & 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 & 1 & 0 \end{array} \right)$$

(12)

$$\left(\begin{array}{ccccc|c} 1 & 1 & 0 & 0 & 1 & 1 \\ 1 & 1 & 0 & 1 & 1 & 1 \\ 1 & 1 & 0 & 1 & 1 & 1 \\ 1 & 0 & 0 & 1 & 1 & 0 \end{array} \right)$$

(13)

$$\left(\begin{array}{ccccc|c} 0 & 0 & 1 & 0 & 1 & 0 \\ 1 & 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 1 \end{array} \right)$$

(14)

$$\left(\begin{array}{ccccc|c} 0 & 1 & 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 & 1 & 1 \end{array} \right)$$

(15)

$$\left(\begin{array}{ccccc|c} 1 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 & 1 \\ 1 & 1 & 1 & 0 & 1 & 0 \end{array} \right)$$

Řešení (\mathbb{Z}_2):

- (1) $(1, 1, 0) + \langle (0, 0, 1) \rangle$
- (2) $(0, 1, 1)$
- (3) $(1, 1, 0)$
- (4) $(1, 1, 1)$
- (5) $(0, 1, 0) + \langle (0, 0, 1) \rangle$
- (6) $(1, 1, 0, 0) + \langle (1, 0, 0, 1), (1, 1, 1, 0) \rangle$
- (7) $(1, 0, 0, 0) + \langle (1, 0, 1, 1) \rangle$
- (8) $(0, 1, 1, 0) + \langle (1, 1, 1, 1) \rangle$
- (9) $(1, 0, 0, 0) + \langle (0, 0, 0, 1) \rangle$
- (10) $(0, 0, 0, 1) + \langle (0, 0, 1, 0) \rangle$
- (11) $(1, 1, 0, 0, 1) + \langle (1, 1, 1, 1, 0) \rangle$
- (12) $(0, 1, 0, 0, 0) + \langle (1, 0, 0, 0, 1), (0, 0, 1, 0, 0) \rangle$
- (13) $(1, 0, 0, 0, 0) + \langle (0, 0, 1, 0, 1), (0, 0, 0, 1, 0), (0, 1, 0, 0, 0) \rangle$
- (14) $(0, 1, 0, 1, 0) + \langle (1, 0, 0, 0, 0) \rangle$
- (15) $(0, 1, 0, 0, 1) + \langle (1, 1, 0, 1, 0) \rangle$

Řešte nad \mathbb{Z}_3 :

(1)

$$\left(\begin{array}{ccc|c} 2 & 2 & 1 & 1 \\ 2 & 2 & 2 & 1 \\ 1 & 2 & 0 & 0 \end{array} \right)$$

$$(2) \quad \left(\begin{array}{ccc|c} 2 & 2 & 1 & 2 \\ 2 & 0 & 0 & 2 \\ 1 & 0 & 1 & 1 \end{array} \right)$$

$$(3) \quad \left(\begin{array}{ccc|c} 0 & 1 & 0 & 2 \\ 2 & 2 & 2 & 2 \\ 2 & 1 & 1 & 1 \end{array} \right)$$

$$(4) \quad \left(\begin{array}{ccc|c} 1 & 2 & 0 & 2 \\ 2 & 1 & 1 & 0 \\ 2 & 1 & 2 & 2 \end{array} \right)$$

$$(5) \quad \left(\begin{array}{ccc|c} 0 & 1 & 1 & 2 \\ 1 & 2 & 2 & 0 \\ 1 & 0 & 0 & 2 \end{array} \right)$$

$$(6) \quad \left(\begin{array}{cccc|c} 0 & 2 & 1 & 2 & 0 \\ 0 & 1 & 2 & 1 & 0 \\ 0 & 2 & 2 & 1 & 0 \end{array} \right)$$

$$(7) \quad \left(\begin{array}{cccc|c} 1 & 1 & 1 & 0 & 2 \\ 1 & 0 & 2 & 0 & 2 \\ 2 & 0 & 2 & 2 & 1 \end{array} \right)$$

$$(8) \quad \left(\begin{array}{cccc|c} 2 & 2 & 1 & 0 & 0 \\ 2 & 1 & 2 & 1 & 2 \\ 2 & 0 & 1 & 0 & 2 \end{array} \right)$$

$$(9) \quad \left(\begin{array}{cccc|c} 2 & 0 & 0 & 0 & 2 \\ 0 & 2 & 2 & 1 & 0 \\ 2 & 1 & 0 & 1 & 1 \end{array} \right)$$

$$(10) \quad \left(\begin{array}{cccc|c} 0 & 2 & 2 & 1 & 1 \\ 0 & 0 & 0 & 2 & 1 \\ 2 & 0 & 2 & 2 & 2 \end{array} \right)$$

$$(11) \quad \left(\begin{array}{cccc|c} 1 & 0 & 0 & 2 & 0 \\ 1 & 0 & 0 & 0 & 0 \\ 1 & 0 & 2 & 0 & 0 \end{array} \right)$$

$$(12) \quad \left(\begin{array}{cccc|c} 0 & 2 & 2 & 0 & 2 \\ 2 & 2 & 1 & 0 & 2 \\ 0 & 0 & 2 & 0 & 1 \end{array} \right)$$

$$(13) \quad \left(\begin{array}{cccc|c} 0 & 1 & 0 & 1 & 2 \\ 2 & 1 & 0 & 2 & 0 \\ 1 & 0 & 0 & 0 & 1 \end{array} \right)$$

$$(14) \quad \left(\begin{array}{cccc|c} 0 & 1 & 2 & 1 & 2 \\ 2 & 1 & 0 & 2 & 2 \\ 0 & 2 & 1 & 1 & 2 \end{array} \right)$$

$$(15) \quad \left(\begin{array}{cccc|c} 1 & 1 & 2 & 1 & 0 \\ 2 & 0 & 2 & 1 & 2 \\ 0 & 2 & 1 & 2 & 1 \end{array} \right)$$

$$(16) \quad \left(\begin{array}{cccc|c} 2 & 2 & 2 & 0 & 0 \\ 0 & 2 & 0 & 0 & 1 \\ 1 & 1 & 2 & 1 & 1 \end{array} \right)$$

Řešení (\mathbb{Z}_3):

- (1) $(1, 1, 0)$
- (2) $(1, 0, 0)$
- (3) $(0, 2, 2)$
- (4) $(2, 0, 2) + \langle (1, 1, 0) \rangle$
- (5) $(2, 2, 0) + \langle (0, 2, 1) \rangle$
- (6) $(0, 0, 0, 0) + \langle (0, 0, 1, 1), (1, 0, 0, 0) \rangle$
- (7) $(2, 0, 0, 0) + \langle (1, 1, 1, 1) \rangle$
- (8) $(2, 2, 1, 0) + \langle (2, 0, 2, 1) \rangle$
- (9) $(1, 2, 1, 0) + \langle (0, 2, 2, 1) \rangle$
- (10) $(2, 1, 0, 2) + \langle (2, 2, 1, 0) \rangle$
- (11) $(0, 0, 0, 0) + \langle (0, 1, 0, 0) \rangle$
- (12) $(1, 2, 2, 0) + \langle (0, 0, 0, 1) \rangle$
- (13) $(1, 0, 0, 2) + \langle (0, 0, 1, 0) \rangle$
- (14) $(2, 0, 0, 2) + \langle (1, 1, 1, 0) \rangle$
- (15) $(1, 2, 0, 0) + \langle (0, 0, 1, 1) \rangle$
- (16) $(0, 2, 1, 0) + \langle (1, 0, 2, 1) \rangle$

Řešte nad \mathbb{Z}_5 :

$$(1) \quad \left(\begin{array}{ccc|c} 0 & 2 & 1 & 4 \\ 3 & 3 & 2 & 2 \\ 2 & 2 & 0 & 0 \end{array} \right)$$

$$(2) \quad \left(\begin{array}{ccc|c} 4 & 4 & 4 & 3 \\ 1 & 3 & 3 & 4 \\ 0 & 1 & 0 & 1 \end{array} \right)$$

$$(3) \quad \left(\begin{array}{ccc|c} 4 & 2 & 2 & 3 \\ 0 & 1 & 1 & 3 \\ 0 & 3 & 3 & 4 \end{array} \right)$$

$$(4) \quad \left(\begin{array}{ccc|c} 2 & 2 & 2 & 3 \\ 2 & 2 & 0 & 0 \\ 4 & 4 & 4 & 1 \end{array} \right)$$

$$(5) \quad \left(\begin{array}{ccc|c} 3 & 4 & 0 & 0 \\ 4 & 3 & 0 & 3 \\ 3 & 2 & 2 & 3 \end{array} \right)$$

$$(6) \quad \left(\begin{array}{ccc|c} 2 & 3 & 2 & 3 \\ 3 & 3 & 3 & 1 \\ 3 & 0 & 4 & 1 \end{array} \right)$$

$$(7) \quad \left(\begin{array}{ccc|c} 2 & 1 & 3 & 2 \\ 2 & 0 & 2 & 1 \\ 0 & 1 & 4 & 0 \end{array} \right)$$

$$(8) \quad \left(\begin{array}{ccc|c} 2 & 1 & 2 & 4 \\ 3 & 2 & 4 & 3 \\ 3 & 3 & 2 & 3 \end{array} \right)$$

$$(9) \quad \left(\begin{array}{ccc|c} 0 & 3 & 0 & 1 \\ 2 & 2 & 3 & 2 \\ 4 & 4 & 2 & 1 \end{array} \right)$$

$$(10) \quad \left(\begin{array}{ccc|c} 2 & 0 & 4 & 2 \\ 1 & 2 & 4 & 1 \\ 2 & 1 & 0 & 2 \end{array} \right)$$

$$(11) \quad \left(\begin{array}{cccc|c} 4 & 4 & 1 & 1 & 1 \\ 2 & 2 & 0 & 0 & 1 \\ 3 & 0 & 3 & 3 & 2 \end{array} \right)$$

$$(12) \quad \left(\begin{array}{cccc|c} 3 & 0 & 2 & 2 & 4 \\ 1 & 4 & 2 & 0 & 1 \\ 2 & 0 & 4 & 2 & 3 \end{array} \right)$$

$$(13) \quad \left(\begin{array}{cccc|c} 2 & 1 & 1 & 4 & 0 \\ 0 & 4 & 0 & 0 & 1 \\ 3 & 3 & 1 & 2 & 0 \end{array} \right)$$

$$(14) \quad \left(\begin{array}{cccc|c} 2 & 4 & 1 & 2 & 0 \\ 1 & 4 & 3 & 1 & 1 \\ 4 & 4 & 3 & 1 & 1 \end{array} \right)$$

$$(15) \quad \left(\begin{array}{cccc|c} 2 & 2 & 1 & 4 & 2 \\ 4 & 4 & 4 & 1 & 0 \\ 0 & 3 & 3 & 1 & 4 \end{array} \right)$$

$$(16) \quad \left(\begin{array}{cccc|c} 4 & 0 & 3 & 3 & 2 \\ 1 & 3 & 4 & 1 & 1 \\ 1 & 1 & 0 & 2 & 2 \end{array} \right)$$

$$(17) \quad \left(\begin{array}{cccc|c} 1 & 0 & 1 & 0 & 3 \\ 0 & 4 & 1 & 4 & 1 \\ 1 & 1 & 3 & 2 & 3 \end{array} \right)$$

$$(18) \quad \left(\begin{array}{cccc|c} 1 & 2 & 2 & 2 & 1 \\ 0 & 3 & 2 & 2 & 0 \\ 2 & 1 & 4 & 0 & 2 \end{array} \right)$$

$$(19) \quad \left(\begin{array}{cccc|c} 2 & 1 & 1 & 1 & 0 \\ 2 & 3 & 0 & 3 & 3 \\ 2 & 2 & 0 & 3 & 3 \end{array} \right)$$

$$(20) \quad \left(\begin{array}{cccc|c} 2 & 2 & 3 & 4 & 2 \\ 0 & 3 & 1 & 3 & 2 \\ 1 & 1 & 3 & 2 & 4 \end{array} \right)$$

Řešení (\mathbb{Z}_5):

- (1) $(1, 4, 1)$
- (2) $(1, 1, 0)$
- (3) $(3, 3, 0) + \langle (0, 4, 1) \rangle$
- (4) $(0, 0, 4) + \langle (4, 1, 0) \rangle$
- (5) $(1, 3, 2)$
- (6) $(1, 4, 2)$
- (7) $(0, 3, 3)$
- (8) $(0, 2, 1)$
- (9) $(1, 2, 2)$
- (10) $(1, 0, 0) + \langle (3, 4, 1) \rangle$
- (11) $(0, 3, 4, 0) + \langle (0, 0, 4, 1) \rangle$
- (12) $(0, 3, 2, 0) + \langle (2, 4, 1, 1) \rangle$
- (13) $(2, 4, 2, 0) + \langle (2, 0, 2, 1) \rangle$
- (14) $(0, 3, 3, 0) + \langle (0, 0, 3, 1) \rangle$
- (15) $(2, 0, 3, 0) + \langle (3, 2, 1, 1) \rangle$
- (16) $(4, 3, 2, 0) + \langle (4, 4, 2, 1) \rangle$
- (17) $(1, 1, 2, 0) + \langle (2, 2, 3, 1) \rangle$
- (18) $(1, 0, 0, 0) + \langle (2, 2, 1, 1) \rangle$
- (19) $(4, 0, 2, 0) + \langle (1, 0, 2, 1) \rangle$
- (20) $(3, 0, 2, 0) + \langle (4, 4, 0, 1) \rangle$

Řešte nad \mathbb{Z}_7 .

(1)

$$\left(\begin{array}{ccc|c} 4 & 4 & 5 & 0 \\ 0 & 1 & 4 & 3 \\ 3 & 6 & 1 & 3 \end{array} \right)$$

(2)

$$\left(\begin{array}{ccc|c} 6 & 3 & 4 & 2 \\ 5 & 6 & 1 & 4 \\ 1 & 3 & 3 & 3 \end{array} \right)$$

(3)

$$\left(\begin{array}{ccc|c} 0 & 0 & 6 & 5 \\ 3 & 4 & 0 & 1 \\ 0 & 1 & 1 & 5 \end{array} \right)$$

(4)

$$\left(\begin{array}{ccc|c} 1 & 3 & 0 & 6 \\ 1 & 4 & 0 & 4 \\ 6 & 6 & 6 & 1 \end{array} \right)$$

(5)

$$\left(\begin{array}{ccc|c} 6 & 4 & 2 & 3 \\ 1 & 3 & 0 & 6 \\ 2 & 6 & 3 & 1 \end{array} \right)$$

(6)

$$\left(\begin{array}{ccc|c} 5 & 0 & 3 & 6 \\ 0 & 3 & 0 & 1 \\ 3 & 2 & 2 & 0 \end{array} \right)$$

(7)

$$\left(\begin{array}{ccc|c} 6 & 6 & 2 & 4 \\ 0 & 5 & 4 & 0 \\ 5 & 3 & 5 & 2 \end{array} \right)$$

(8)

$$\left(\begin{array}{ccc|c} 6 & 6 & 0 & 3 \\ 2 & 1 & 0 & 4 \\ 5 & 2 & 1 & 4 \end{array} \right)$$

(9)

$$\left(\begin{array}{ccc|c} 1 & 0 & 4 & 1 \\ 0 & 2 & 4 & 0 \\ 1 & 3 & 3 & 1 \end{array} \right)$$

(10)

$$\left(\begin{array}{ccc|c} 1 & 6 & 1 & 4 \\ 4 & 6 & 0 & 0 \\ 6 & 1 & 6 & 3 \end{array} \right)$$

(11)

$$\left(\begin{array}{cccc|c} 2 & 6 & 2 & 2 & 5 \\ 3 & 4 & 2 & 6 & 3 \\ 2 & 6 & 3 & 6 & 0 \end{array} \right)$$

(12)

$$\left(\begin{array}{cccc|c} 1 & 6 & 5 & 6 & 1 \\ 2 & 2 & 4 & 2 & 6 \\ 1 & 6 & 0 & 3 & 1 \end{array} \right)$$

(13)

$$\left(\begin{array}{cccc|c} 3 & 2 & 0 & 4 & 4 \\ 5 & 3 & 6 & 3 & 0 \\ 1 & 2 & 2 & 6 & 3 \end{array} \right)$$

(14)

$$\left(\begin{array}{cccc|c} 5 & 0 & 6 & 5 & 3 \\ 5 & 4 & 6 & 6 & 6 \\ 6 & 4 & 3 & 6 & 1 \end{array} \right)$$

(15)

$$\left(\begin{array}{cccc|c} 1 & 5 & 5 & 0 & 1 \\ 4 & 6 & 2 & 0 & 3 \\ 4 & 4 & 2 & 0 & 3 \end{array} \right)$$

(16)

$$\left(\begin{array}{cccc|c} 5 & 6 & 4 & 1 & 6 \\ 4 & 6 & 6 & 2 & 0 \\ 4 & 5 & 2 & 1 & 6 \end{array} \right)$$

(17)

$$\left(\begin{array}{cccc|c} 0 & 2 & 2 & 3 & 2 \\ 5 & 0 & 1 & 0 & 5 \\ 4 & 2 & 6 & 0 & 2 \end{array} \right)$$

(18)

$$\left(\begin{array}{cccc|c} 2 & 4 & 2 & 2 & 0 \\ 6 & 6 & 3 & 4 & 2 \\ 4 & 1 & 2 & 3 & 0 \end{array} \right)$$

(19)

$$\left(\begin{array}{cccc|c} 2 & 4 & 0 & 0 & 6 \\ 2 & 4 & 2 & 5 & 4 \\ 5 & 1 & 6 & 2 & 4 \end{array} \right)$$

(20)

$$\left(\begin{array}{cccc|c} 5 & 0 & 3 & 0 & 1 \\ 0 & 6 & 5 & 6 & 1 \\ 1 & 4 & 2 & 3 & 4 \end{array} \right)$$

(21)

$$\left(\begin{array}{ccccc|c} 3 & 0 & 1 & 0 & 0 & 2 \\ 3 & 6 & 3 & 5 & 4 & 5 \\ 1 & 3 & 6 & 5 & 4 & 5 \end{array} \right)$$

(22)

$$\left(\begin{array}{ccccc|c} 5 & 0 & 4 & 5 & 6 & 5 \\ 5 & 0 & 3 & 1 & 0 & 2 \\ 3 & 4 & 3 & 5 & 0 & 3 \end{array} \right)$$

$$(23) \quad \left(\begin{array}{ccccc|c} 1 & 3 & 0 & 1 & 2 & 3 \\ 6 & 6 & 4 & 2 & 6 & 5 \\ 1 & 1 & 4 & 3 & 6 & 3 \end{array} \right)$$

$$(24) \quad \left(\begin{array}{ccccc|c} 1 & 1 & 3 & 0 & 1 & 3 \\ 1 & 5 & 2 & 6 & 6 & 6 \\ 5 & 1 & 6 & 1 & 6 & 0 \end{array} \right)$$

$$(25) \quad \left(\begin{array}{ccccc|c} 6 & 6 & 3 & 4 & 6 & 3 \\ 2 & 3 & 1 & 4 & 0 & 3 \\ 2 & 4 & 6 & 3 & 4 & 2 \end{array} \right)$$

$$(26) \quad \left(\begin{array}{ccccc|c} 5 & 6 & 0 & 0 & 4 & 6 \\ 5 & 6 & 2 & 0 & 2 & 0 \\ 2 & 1 & 5 & 4 & 3 & 2 \end{array} \right)$$

$$(27) \quad \left(\begin{array}{ccccc|c} 1 & 5 & 1 & 0 & 6 & 5 \\ 3 & 4 & 2 & 6 & 0 & 4 \\ 3 & 3 & 0 & 0 & 2 & 2 \end{array} \right)$$

$$(28) \quad \left(\begin{array}{ccccc|c} 0 & 4 & 1 & 6 & 4 & 2 \\ 4 & 2 & 4 & 1 & 2 & 2 \\ 2 & 4 & 5 & 6 & 6 & 5 \end{array} \right)$$

$$(29) \quad \left(\begin{array}{ccccc|c} 1 & 2 & 1 & 2 & 5 & 0 \\ 3 & 5 & 2 & 5 & 2 & 5 \\ 5 & 1 & 0 & 5 & 6 & 4 \end{array} \right)$$

$$(30) \quad \left(\begin{array}{ccccc|c} 4 & 6 & 5 & 6 & 0 & 0 \\ 2 & 1 & 3 & 4 & 1 & 1 \\ 2 & 0 & 2 & 6 & 6 & 4 \end{array} \right)$$

Řešení (\mathbb{Z}_7):

- (1) $(5, 6, 1)$
- (2) $(4, 2, 0) + \langle (4, 0, 1) \rangle$
- (3) $(1, 3, 2)$
- (4) $(5, 5, 3)$
- (5) $(6, 0, 1) + \langle (4, 1, 0) \rangle$
- (6) $(0, 5, 2)$
- (7) $(3, 4, 2)$
- (8) $(0, 4, 3)$
- (9) $(1, 0, 0) + \langle (3, 5, 1) \rangle$
- (10) $(1, 4, 0) + \langle (5, 6, 1) \rangle$
- (11) $(6, 4, 2, 0) + \langle (3, 0, 3, 1) \rangle$
- (12) $(2, 1, 0, 0) + \langle (0, 3, 5, 1) \rangle$
- (13) $(6, 0, 2, 0) + \langle (3, 4, 2, 1) \rangle$

- (14) $(2, 6, 0, 0) + \langle (3, 0, 1, 0) \rangle$
- (15) $(5, 0, 2, 0) + \langle (0, 0, 0, 1) \rangle$
- (16) $(5, 3, 3, 0) + \langle (1, 6, 0, 1) \rangle$
- (17) $(3, 4, 4, 0) + \langle (2, 5, 4, 1) \rangle$
- (18) $(3, 2, 0, 0) + \langle (2, 4, 3, 1) \rangle$
- (19) $(5, 6, 6, 0) + \langle (6, 4, 1, 1) \rangle$
- (20) $(6, 2, 2, 0) + \langle (2, 1, 6, 1) \rangle$
- (21) $(3, 5, 0, 3, 0) + \langle (0, 0, 0, 2, 1), (2, 2, 1, 0, 0) \rangle$
- (22) $(0, 2, 3, 0, 0) + \langle (5, 6, 1, 0, 1), (5, 5, 3, 1, 0) \rangle$
- (23) $(4, 2, 1, 0, 0) + \langle (1, 6, 2, 0, 1), (5, 5, 2, 1, 0) \rangle$
- (24) $(5, 0, 4, 0, 0) + \langle (6, 1, 2, 0, 1), (5, 2, 0, 1, 0) \rangle$
- (25) $(3, 2, 5, 0, 0) + \langle (6, 2, 3, 0, 1), (0, 2, 4, 1, 0) \rangle$
- (26) $(4, 0, 4, 4, 0) + \langle (2, 0, 1, 4, 1), (3, 1, 0, 0, 0) \rangle$
- (27) $(6, 4, 0, 2, 0) + \langle (3, 1, 0, 6, 1), (2, 5, 1, 0, 0) \rangle$
- (28) $(2, 1, 5, 0, 0) + \langle (0, 0, 3, 0, 1), (4, 6, 5, 1, 0) \rangle$
- (29) $(5, 0, 2, 0, 0) + \langle (0, 1, 0, 0, 1), (6, 0, 6, 1, 0) \rangle$
- (30) $(4, 6, 5, 0, 0) + \langle (6, 0, 5, 0, 1), (0, 5, 4, 1, 0) \rangle$