

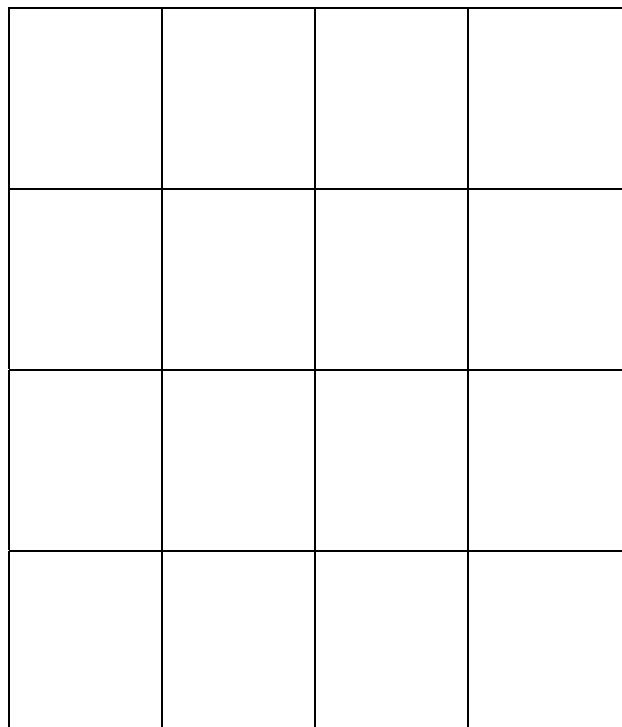
# MULTO

An open-ended assessment item

The game uses all of the 100 flash cards with the basic multiplication facts  $0 \times 0$  through  $9 \times 9$ .

Players get to make their own boards by writing 16 different numbers into the squares of a  $4 \times 4$  grid.

To win, a player must complete a full row, column, diagonal or 4 corners of the board.



# MULTO


## Total Possible Outcomes:

X	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

What is the probability of getting 0?

What is the probability of getting 24 ?

What is the probability of getting a 49?

What is the probability of getting 99?

# MULTO Assessment Task

Kira, Simaya and Ethan made the following game boards:

12	5	29	36
28	46	87	50
81	54	14	8
63	10	7	35

Kira

1	2	3	4
20	44	90	79
18	25	9	10
37	36	35	34

Simaya

16	9	18	24
5	21	0	30
14	48	72	45
12	33	17	20

Ethan

1. Explain what you think each student's chances of winning might be and why.
2. Design a board you think would have a good chance of winning and give your reasons.