Not a Group!

The following sets are not groups under the given operations. Why not?

1. $\mathbf{Z}_4 = \{0, 1, 2, 3\}$ under ordinary addition

2. Positive integers $\mathbf{Z}^+ = \{1, 2, 3, 4, \ldots\}$ under ordinary multiplication

3. $M = \left\{ \begin{bmatrix} a & b \\ c & d \end{bmatrix} \middle| a, b, c, d \in R \right\}$ under matrix multiplication

4. $\mathbf{Z}_6^* = \{1, 2, 3, 4, 5\}$ under multiplication modulo 6

5. $S = \{1, 2, 3, 4, 5, 6\}$ under the binary operation * given by the table

*	**1**	**2**	**3**	**4**	**5**	**6**
1	1	2	3	4	5	6
2	2	3	4	5	6	1
3	3	4	1	6	2	5
4	4	5	6	1	3	2
5	5	6	2	3	1	4
6	6	1	5	2	4	3