[11-05-05-T21]

Assignment

Please create an operation table for the operation multiplication mod 6 denoted by $\times_6$. The table you produce must be of a system that, under the operation $\times_6$, is associative and is commutative. It must have an identity element, and for every element there must be an inverse element in the set.

The challenge in this problem is to pick the elements of the set on which $\times_6$ operates such that the system possess the properties noted above.

Reminders: $a \times_6 b$ equals the remainder when the product $a \times b$ is divided by 6. And an operation table, using the example from class for $\{1, 2, 3, 4\}$ under $\times_5$, is

$\times_5$	1	2	3	4
1	1	2	3	4
2	2	4	1	3
3	3	1	4	2
4	4	3	2	1