

# [11-05-06-T21]

## Assignment

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Please try to determine which numbers must be in a set if the set is to have the properties listed below for multiplication mod anything. If you get this figured out, then I can say “multiplication mod 9” and you say, “Oh, then use the set {1, 2, 4, 5, 7, 8}”.

The properties are associative, commutative, an identity element, and an inverse element for every element in the set. Always check associative *last*, because the check is tedious.

By the way, the structure for  $\times_9$ , would be:

		1	2	4	5	7	8
–		–	–	–	–	–	–
1		1	2	4	5	7	8
2		2	4	8	1	5	7
4		4	8	7	2	1	5
5		5	1	2	7	8	4
7		7	5	1	8	4	2
8		8	7	5	4	2	1