

Problem 1 [*Proposed by: Nobody from: National Academy*]

Let A, B be in \mathcal{M} . Find $A + B$.

Remark

It is an example of a problem for ISTCiM.

Solution:

First we need the following lemma:

Lemma 1

Let $X, Y \in \mathcal{M}$.

Then $X + Y \in \mathcal{M}$.

Proof: It is obvious. Even when it is false.

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The claim is the direct application of lemma 1.

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Solution n.2:

We will prove the following claim, which is a more general fact and leads directly to the solution of the problem.

Theorem 2 (MORE GENERAL FACT)

Let $A_1, A_2, A_3, \dots \in \mathcal{M}$.

Then $\sum_i A_i \in \mathcal{M}$.

Proof: It is enough to show that the thesis of the problem is trivially obvious.

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