

# The water in the wine

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If you want to improve the grade on your assignment you must redo the work correcting the difficulty and answer the two questions posed below.

MTHT 400 HOMEWORK: Due August 30

A bottle of wine contains 1 liter of wine. Next to it is a glass which holds .4 liter of water. One teaspoon (2 ml) of water is taken from the glass and mixed into the wine. Then a teaspoon of the mixture is stirred back into the glass.

Is there more water in the wine or more wine in the water?

Write out both 'intuitive' and 'algebraic' solutions of this problem. Think about the use of variables in each solution.

**Rubric:**

The papers were scored as follows:

5. The answer was correct and the explanation was clear.
4. The answer was correct; the explanation was less clear and/or units were omitted.
3. The answer was correct but the explanation was seriously deficient.
2. The answer was incorrect because a correct strategy was incorrectly applied.
1. The analysis of the problem was fundamentally incorrect.

**Further questions:**

1. What is the difference between 'concentration' and 'amount'. What are appropriate units for each notion?
2. What does the word 'part' mean in the study of ratio and proportion?