

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:

A. 3 points: Did the student demonstrate understanding of the difference between amount and concentration?

B. solution for concentration (1 point intuition; 4 points formal)

C) solution for amount (3 points intuition; 4 points formal)

D) Were units handled correctly (3 points)

E) 3 additional points were earned for anyone who showed the size of the bottle and glass did not matter.

Further questions:

1. What is the difference between 'concentration' and 'amount'. What are appropriate units for each notion in **this** problem?

2. What does the word 'part' mean in the study of ratio and proportion?