



Problem of the Week

Problem D

Dye Refresher

To create an ink refresher for dye-based ink, some crafters will mix pure vegetable glycerine with water to get a mixture that is 12% vegetable glycerine, by volume. Kathy does not have pure vegetable glycerine, but she does have

- a 90 mL mixture that is 10.5% vegetable glycerine,
- a 120 mL mixture that is 30% vegetable glycerine, and
- a 1 L mixture that is 7.5% vegetable glycerine.

Since Kathy is a math teacher, she knows she can use the contents of these three mixtures to create a mixture that is 12% vegetable glycerine, by volume. She combines the contents of the entire 90 mL mixture with the contents of the entire 120 mL mixture, and then adds some of the 1 L mixture. How many millilitres of the 1 L mixture should she add to create a new mixture that is 12% vegetable glycerine, by volume?

