



Problem of the Week

Problem D

Don't Want to Miss a Sale

A customer came into an auto shop requiring a quantity of anti-freeze of which 8% is glycerine. This was the percentage recommended in her owner's manual.

The shop owner has the following:

- a three litre bottle of anti-freeze of which 7% is glycerine,
- a four litre bottle of anti-freeze of which 20% is glycerine, and
- a bulk supply of antifreeze of which 5% is glycerine.

The owner, not wanting to miss a sale, felt that she could create an anti-freeze mixture with the required percentage by combining the contents of the entire three litre bottle with the contents of the entire four litre bottle and then adding some anti-freeze from the bulk supply.

How many litres of anti-freeze from the bulk supply must be added to create a quantity of anti-freeze of which 8% is glycerine? (You may assume that the shop owner has enough of the bulk supply to create the appropriate mixture.)

