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## Mixture Problems

1. A chemist has one solution that is $10 \%$ salt and $90 \%$ water and another solution that is only $2 \%$ salt. How many milliliters of each should the chemist use to make 1400 ml of a solution that is $6 \%$ salt? ( 700 ml of each)
2. A pharmacist has one solution that is $10 \%$ iodine and another that is $50 \%$ iodine. How much of each should the druggist use to get 100 milliliters of a mixture that is $20 \%$ iodine? ( 75 ml and 25 ml )
3. How much water must be evaporated from 100 gallons of a $10 \%$ brine solution to get a $20 \%$ brine solution? ( 50 gal )
4. When Frank and Mark finished milking, they found that they had 900 pounds of milk that was $2 \%$ butterfat. How much butterfat did they have to add to raise the butterfat content to $10 \%$ ? ( 80 pounds)
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5. The vat contained 40 liters of a $5 \%$ salt solution. How much of a $20 \%$ salt solution should be added to get a $10 \%$ salt solution? (20 liters)
6. Somehow salt found its way into the rain barrel, for the 50 gallons of water it contained was found to be $4 \%$ salt. How much pure water must be added to reduce the salt content to $1 \%$ ? ( 150 gal )
7. Two containers are on the shelf. The first one contains a $30 \%$ iodine solution and the other contains an $80 \%$ iodine solution. How much of each should be used to get 50 liters of a solution that is $40 \%$ iodine?
(40 L and 10 L )
8. The solution came up to the $500-\mathrm{ml}$ mark on the beaker. If the solution was $84 \%$ alcohol, how much alcohol should be evaporated so that what is left would be only $80 \%$ alcohol? ( 100 ml )
