

Mixture

You must show your work on a separate piece of paper.

1. A chemist wishes to mix some pure acid with some water to produce 16 L of a solution that is 30% acid. How much pure acid and how much water should be mixed?
2. How many liters of water must be evaporated from 10 L of 40% salt solution to produce a 50% solution?
3. A securities broker advised a client to invest a total of \$21,000 in bonds paying 12% interest and in certificates of deposit paying 5 $\frac{1}{4}$ % interest. The annual income from these investments was \$2250. Find out how much was invested at each rate.
4. How many mL of water must be added to 60 mL of 15% iodine solution in order to dilute it to 10% iodine solution?
5. A farm stand owner mixes apple juice and cranberry juice. How much should he charge if he mixes 8 L of apple juice selling for 45 cents/L with 10L of cranberry juice selling for \$1.08/L?

Answers:

1. 4.8 L of acid, 11.2 L of water
2. 2L
3. \$17,000 at 12%; \$4000 at 5 $\frac{1}{4}$ %
4. 30 mL
5. 80 cents/L