

Mixture Problems

1. The owner of the Fancy Food Shoppe wishes to mix cashews selling at \$8.00 per kilogram and pecans selling for \$7.00 per kilogram. How much of each kind of nut should be mixed to get 8 kg worth \$7.25 per kilogram?

	Number of kilograms × Price per kilogram = Total cost		
Cashews	x		
Pecans			
Mixture			

2. A chemist has 40 grams of a solution that is 50% acid. How much water should she add to make a solution that is 10% acid?

	Total amount × % acid = Amount of acid		
Original Solution			
Added Water	x		
New Solution			

3. A chemist has 800 g of a solution that is 15% salt. How much salt should be added to make a solution that is 20% salt?

	Total amount × % salt = Amount of salt		
Original Solution			
Added salt	x		
Mixture			

4. A chemist mixes together 20 L of a solution that is 60% acid and 30L of a solution that is 20% acid. What is the acid percentage of the mixture?

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5. A grocer mixes together four pounds of peanuts costing \$2 per pound with two pounds of walnuts costing \$5 per pound. What should the price per pound of this mixture be?

6. How many grams of water must be added to 50 g of a 30% acid solution in order to produce a 20% acid solution?

7. How many kilograms of water must be added to 80 kg of a 60% iodine solution in order to dilute it to a 40% iodine solution?

8. How many kilograms of salt must be added to 30 kg of a 20% salt solution in order to increase the salt content to 25%?

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9. A grocer mixes two kinds of nuts. One kind costs \$5.00 per kilogram and the other \$5.80 per kilogram. How many kilograms of each type are needed to make 40 kg of a blend worth \$5.50 per kilogram?

10. A chemist wishes to mix some pure acid with some water to produce 8 L of a solution that is 40% acid. How much pure acid and how much water should be mixed?

11. How many kilograms of water must be evaporated from 10 kg of a 40% salt solution to produce a 50% salt solution?

12. How many kilograms of water must be evaporated from 12 kg of a 20% salt solution to produce a 60% solution?
