

**Mixture Problems – Day 4**  
Unit 5: Real World Applications

**Solve each question. Round your answer to the nearest hundredth when needed.**

1. An acid solution was made by mixing 8 L of a 35% acid solution and 4 L of a 5% acid solution. Find the concentration of the new mixture.

2. 4 lbs. of walnuts which cost \$6/lbs. were combined with 8 lbs. of peanuts which cost \$9/lbs. Find the cost per lbs. of the mixture.

3. For her birthday party Heather mixed together 9 gal. of Brand A fruit punch and 10 gal. of Brand B. Brand A contains 54% fruit juice and Brand B contains 16% fruit juice. What percent of the mixture is fruit juice?

4. 16 kg of mixed nuts containing 65% peanuts were mixed with 20 kg of another kind of mixed nuts that contain 20% peanuts. What percent of the new mixture is peanuts?

5. How many lbs. of sliced peaches what cost \$3/lbs. must be added to 2 lbs. of sliced bananas which cost \$9/lbs. to make fruit salad which costs \$4/lbs.?

6. How much soil with 42% clay do you need to add to  $8 \text{ ft}^3$  of soil with 54% clay in order to make a soil with 50% clay?

7. How any lbs. mixed nuts that contain 62% peanuts must Heather add to 8 lbs. of mixed nuts that contain 32% peanuts to make a mixture with 46% peanuts?

8. How many o. of a metal containing 86% platinum must be combined with 12 oz. of a metal containing 38% platinum to form an alloy containing 54% platinum?

9. Alberto made a nut mixture that contains 45% peanuts by mixing together 9 kg of mixed nuts that contain 70% peanuts and 15 kg of a different brand of mixed nuts. The second brand of mixed nuts contained what percent peanuts?

10. What is the price per oz. of Arabica coffee beans if 4 oz. were mixed with 8 oz. of Robusta coffee beans which cost \$5/oz. to make 12 oz. of Lea's Premium Coffee Blend which costs \$8/oz.?

11. Kari mixed together 6 gal. of Brand A fruit drink and 7 gal. of apple juice. Find the percent of fruit juice in Brand A if the mixture contained 70% fruit juice.

12. Joe and his brother mixed together some soil and some sand to make  $5 \text{ ft}^3$  of soil with a 90% sand content. They used  $4 \text{ ft}^3$  of sand and  $1 \text{ ft}^3$  of a soil they purchased. What was the sand content of the soil they purchased?

13. To build the garden of your dreams you need  $10 \text{ ft}^3$  of soil containing 36% clay. You have two types of soil you can combine to achieve this: soil with 37% clay and soil with 27% clay. How much of each soil should you use?

14. Jimmy's Red Hot Peanuts which cost \$3/kg are made by combining peanuts which cost \$1/kg with spices which cost \$4/kg. find the number of kg of peanuts and spices required to make 12 kg of Jimmy's Red Hot Peanuts.

15. Brand X sells 14 kg bags of mixed nuts that contain 67% peanuts. To make their product they combine Brand A mixed nuts which contain 63% peanuts and Brand B mixed nuts which contain 70% peanuts. How much of each do they need to use?

16. To build the garden of your dreams you need  $15 \text{ yd}^3$  of soil containing 18% silt. You have two types of soil you can combine to achieve this: soil with 10% silt and soil with 30% silt. How much of each soil should you use?

17. Vegetable oil which costs \$2/kg is made by combining soybean oil which costs \$1/kg with canola oil which costs \$4/kg. Find the number of kg of soybean oil and canola oil required to make 12 kg of vegetable oil.

18. A metallurgist needs to make 10 kg of an alloy containing 9% silver. He is going to melt and combine one metal that is 45% silver with another metal that is 5% silver. How much of each should he use?