

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Mixture Word Problems

Define x , write an exact conservation equation, solve without rounding intermediate values, and give exact answers plus nearest-hundredth values in the requested unit. Percentages in liquid stories are by volume; other mixture percentages are by mass.

1. How many pounds of a 72% silver alloy and a 21% silver alloy are needed to make 8 lb at 62% silver by mass?

2. 5 L of a 74% vinegar solution is mixed with 11 L of a 30% vinegar solution. Assuming volumes add, what is the mixture's vinegar percentage by volume?

3. 13 mL of one acid solution is mixed with 6 mL of a 48% acid solution. Assuming volumes add, the mixture is 76% acid by volume. Find the first solution's acid percentage by volume.

4. 16 mL of one salt solution is mixed with 18 mL of a 71% salt solution. Assuming volumes add, the mixture is 79% salt by volume. Find the first solution's salt percentage by volume.

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Mixture Word Problems

Define x , write an exact conservation equation, solve without rounding intermediate values, and give exact answers plus nearest-hundredth values in the requested unit. Percentages in liquid stories are by volume; other mixture percentages are by mass.

5. How many pounds of a 58% peanut mix and a 22% peanut mix are needed to make 18 lb at 39% peanuts by mass?

6. 11 oz of soil containing 70% clay by mass is mixed with 14 oz containing 44% clay by mass. What percentage clay by mass is in the mixture?

7. A 5 lb apple mixture is 62% red apples by mass. It is combined with 20 lb that is 46% red apples by mass. What percentage of the combined mass is red apples?

8. A starting alloy is 53% gold by mass. What mass of this alloy should be combined with 12 g of pure gold to produce an alloy that is 91% gold by mass?

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Mixture Word Problems

Define x , write an exact conservation equation, solve without rounding intermediate values, and give exact answers plus nearest-hundredth values in the requested unit. Percentages in liquid stories are by volume; other mixture percentages are by mass.

9. A trail mix combines 19 lb of peanuts at \$4/lb, 3 lb of raisins at \$3/lb, and 7 lb of cashews at \$4/lb. What is the exact unit cost of the mixture, and what is it to the nearest hundredth of a dollar per pound?

10. 5 L of cranberry juice is mixed with 16 L of apple juice containing 6% sugar. Under an ideal additive-volume model, the final mixture is 9% sugar by volume. What was the cranberry juice sugar percentage by volume?
