8.5 GN   Name: _____

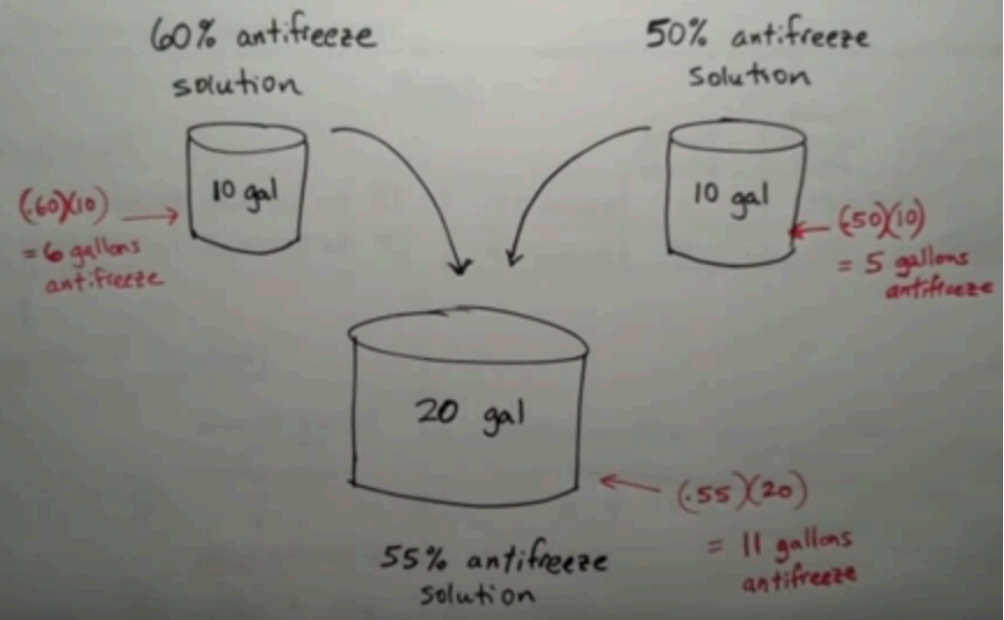**Percent & Mixture Applications**

Ethel invested money in two accounts, and after a year one of them had earned 13% interest and the other 9%. She had $700 more invested in the 9% account and earned a total of $239 in interest. How much did Ethel invest in each account?
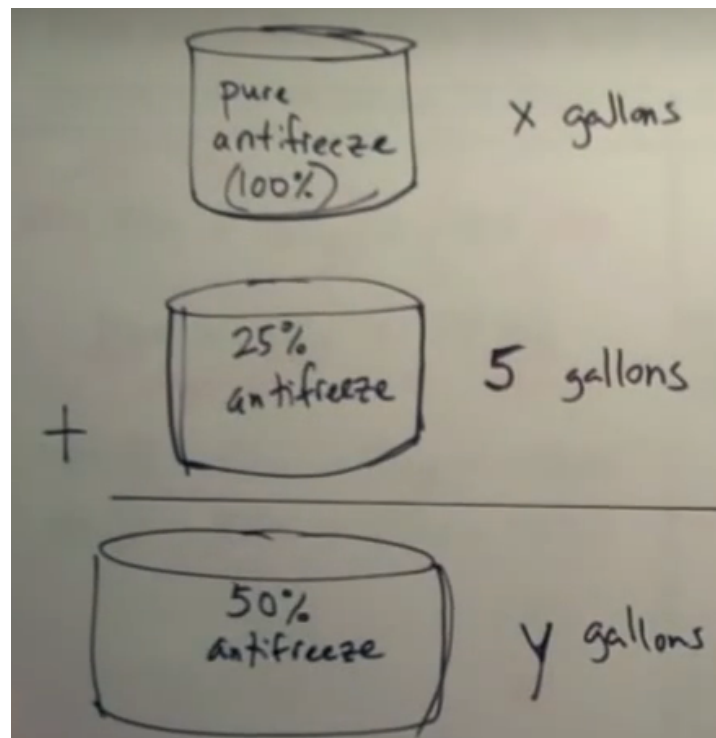
Mixture Problems

60% antifreeze solution

$(.60)(10)$ → = 6 gallons ant.freeze

10 gal

50% antifreeze Solution

$(.50)(10)$ = 5 gallons antifreeze

10 gal

20 gal

← $(.55)(20)$ = 11 gallons antifreeze

55% antifreeze Solution

How many liters of an 80% acid solution and a 50% acid solution must be mixed to produce 24 liters of a 60% acid solution?

SUMMARY:

8.5 Practice – Percent & Mixture Problems

Solve on a separate sheet of paper.

1. A total of $27000 is invested, part of it at 12% and the rest at 13%. The total interest after one year is $3385. How much was invested at each rate?

2. A total of $50000 is invested, part of it at 5% and the rest at 7.5%. The total interest after one year is $3250. How much was invested at each rate?

3. A total of $9000 is invested, part of it at 10% and the rest at 12%. The total interest after one year is $1030. How much was invested at each rate?

4. A total of $18000 is invested, part of it at 6% and the rest at 9%. The total interest after one year is $1248. How much was invested at each rate?

5. An inheritance of $10000 is invested in 2 ways, part at 9.5% and the remainder at 11%. The combined annual interest was $1038.50. How much was invested at each rate?

6. Kerry earned a total of $900 last year on his investments. If $7000 was invested at a certain rate of return and $9000 was invested in a fund with a rate that was 2% higher, find the two rates of interest.

7. Jason earned S256 interest last year on his investments. If S1600 was invested at a certain rate of return and S2400 was invested in a fund with a rate that was double the rate of the first fund, find the two rates of interest.

8. Millicent earned $435 last year in interest. If $3000 was invested at a certain rate of return and $4500 was invested in a fund with a rate that was 2% lower, find the two rates of interest.

9. A total of $8500 is invested, part of it at 6% and the rest at 3.5%. The total interest after one year is $385. How much was invested at each rate?

10. A total of $12000 was invested, part of it at 9% and the rest at 7.5%. The total interest after one year is $1005. How much was invested at each rate?

11. A total of $15000 is invested, part of it at 8% and the rest at 11%. The total interest after one year is $1455. How much was invested at each rate?

12. A total of $17500 is invested, part of it at 7.25% and the rest at 6.5%. The total interest after one year is $1227.50. How much was invested at each rate?

13. A total of $6000 is invested, part of it at 4.25% and the rest at 5.75%. The total interest after one year is $300. How much was invested at each rate?

14. A total of $14000 is invested, part of it at 5.5% and the rest at 9%. The total interest after one year is $910. How much was invested at each rate?

15. A total of $11000 is invested, part of it at 6.8% and the rest at 8.2%. The total interest after one year is $797. How much was invested at each rate?

16. An investment portfolio earned $2010 in interest last year. If S3000 was invested at a certain rate of return and 24000 was invested in a fund with a rate that was 4% lower, find the two rates of interest.

17. Samantha earned $1480 in interest last year on her investments. If $5000 was invested at a certain rate of return and $11000 was invested in a fund with a rate that was two-thirds the rate of the first fund, find the two rates of interest

18. Of 12 pounds of salt water 10% is salt; of another mixture 3% is salt. How many pounds of the second should be added to the first in order to get a mixture of 5% salt?

19. How many grams of pure acid must be added to 40 grams of a 20% acid solution to make a solution which is 36% acid?

20. A tank contains 8000 liters of a solution that is 40% acid. How much water should be added to make a solution that is 30% acid?

21. A certain grade of milk contains 10% butter fat and a certain grade of cream 6 60% butter fat. How many quarts of each must be taken so as to obtain a mixture of 100 quarts that will be 45% butter fat?

22. How much antifreeze should be added to 5 quarts of a 30% mixture of antifreeze to make a solution that is 50% antifreeze?

23. How much alcohol must be added to 24 gallons of a 14% solution of alcohol in order to produce a 20% solution?

24. A chemist wants to make 50ml of a 16% acid solution by mixing a 13% acid solution and an 18% acid solution. How many milliliters of each solution should the chemist use?

25. A syrup manufacturer has some pure maple syrup and some which is 85% maple syrup. How many liters of each should be mixed to make 150L which is 96% maple syrup?

26. A hair dye is made by blending 7% hydrogen peroxide solution and a 4% hydrogen peroxide solution. How many milliliters of each are used to make a 300 ml solution that is 5% hydrogen peroxide?

27. A paint that contains 21% green dye is mixed with a paint that contains 15% green dye. How many gallons of each must be used to make 60 gal of paint that is 19% green dye?

28. How many grams of pure water must be added to 50 g of pure acid to make a solution that is 40% acid?

29. How many ounces of pure water must be added to 50 oz of a 15% saline solution to make a saline solution that is 10% salt?