

Name: _____

Formulas and Applications

Exercise 12: How much water must be added to 30 quarts of a 75% solution of acid to reduce it to a 15% solution?

Exercise 13: How much pure disinfectant must be added to 30 gallons of an 8% solution to increase its strength of 25%?

Exercise 14: The radiator of an automobile already contains 12 quarts of a 10% solution of alcohol. How much alcohol must be added to make a mixture of 20% alcohol?

Exercise 15: How much alcohol must be added in exercise 8 to make a mixture containing 25% alcohol?

Exercise 16: How many quarts of milk containing 4% butter fat and how many quarts of cream containing 29% butter fat must be mixed to make 40 quarts of cream containing 20% butter fat?

Exercise 17: A boy could spade his garden in 6 hours, while his father could spade it in 4 hours. How long would it take the two working together to spade the garden?

Exercise 18: It takes Ashley three times as long to paint a room as it does Aaron. Working together, they can paint the room in 6 hours. How long would it take Aaron to paint the room?

Exercise 19: A laboratory instructor can prepare the solutions for a certain chemical demonstration in 1 hour, while his assistant requires $1\frac{1}{2}$ hours to prepare the same solutions. After they had worked together for 30 minutes, the instructor had to meet a class and the assistant finished the work. How long did it take him?

Exercise 20: Rick is 8 years older than Steve. The sum of their ages is 46 years. How old is each now?

Exercise 21: Charles is 4 years older than his wife Diana. The sum of their ages is 52. What are their present ages?

Exercise 22: The sum of three consecutive integers is 300. What are the integers?

Exercise 23: The sum of two consecutive integers is -34. What are the integers?