**Use matrices to solve the system.**

1. 2. 3.

4. 5. 6.

7. 8. 9.

10. Three solutions contain a certain acid. The first contains 10% acid, the second 30%, and the third 50%. A chemist wishes to use all three solutions to obtain a 50-liter mixture containing 32% acid. If the chemist wants to use twice as much of the 50% solution as of the 30% solution, how many liters of each solution should be used?

11. A swimming pool can be filled by three pipes, A, B, and C. Pipe A alone can fill the pool in 8 hours. If pipes A and C are used together, the pool can be filled in 6 hours; if B and C are used together, it takes 10 hours. How long does it take to fill the pool if all three pipes are used?

12. A shop specializes in preparing blends of gourmet coffees. From Colombian, Brazilian, and Kenyan coffees, the owner wishes to prepare 1-pound bags that will sell for $8.50. The cost per pound of these coffees is $10, $6, and $8, respectively. The amount of Columbian is to be three times the amount of Brazilian. Find the amount of each type of coffee in the blend.