Solving Word Problems

Problems

1. If 12 pounds of coffee beans worth $7.00 a pound are mixed with 18 pounds of coffee beans worth $5.00 a pound, what is the mixture worth per pound?

2. If Charlie can mow one-sixth of a lawn in an hour, and Jessie can mow one-fifth of the same lawn in an hour, what fraction of the lawn can they mow each hour if they work together?

In each question, set up an equation with one unknown to solve the problem. Then solve the equation to answer the question.

3. How many pounds of coffee beans worth $7.00 per pound should be mixed with coffee beans worth $5.00 a pound in order to get 20 pounds of coffee worth $6.25 per pound?

4. If Charlie can mow one-sixth of a lawn in an hour, and Jessie can mow one-fifth of the same lawn in an hour, how long will it take them to complete the lawn if they work together?

5. Find two consecutive numbers whose sum is 543.

6. Find two consecutive numbers whose product is 342.

7. Two-thirds of the new Sophomore class are returning students and the rest will be new to Williston. If 40% of the returning Sophomores are boys, what percent of the new students must be boys to make the new Sophomore class 60% boys?

8. The Chem lab has 8 liters of an 80% acid solution. How many liters of water should they add to this to produce a solution that is only 25% acid?

9. An investor decides to invest part of $30,000 as start-up capital in company that promises a 15% return and the rest in an established company that guarantees 5% return. If he wants to get at least $2,500 per year, how much should he invest in each company?

10. A chemist has a 25% solution and a 75% solution of HCl. How much of each solution should she use to produce 10 liters of a 40% solution?