EXTRA PRACTICE 18
Total Value, Mixture, and Motion Problems
Use after Section 3.3 **Name**_____

See Section 3.3 for examples.

1. There were 239 people at a concert. Admission was $15 each for adults and $5.50 each for children. The receipts were $2758.50. How many adults and how many children attended?
_____

2. A chemist has one solution that is 20% acid and a second that is 65% acid. How many gallons of each should be mixed together to get 120 gallons of a solution that is 50% acid?
_____

3. The Calhouns generate one-and-a-half times as much trash as their neighbors, the Millers. Together, the two households produce 15 bags of trash each month. How much trash does each household produce? _____

4. The Candy Shack has 20 lb of mixed white and dark chocolates worth $7.50 per pound. White chocolates alone sell for $8.00 per pound and dark chocolates sell for $6.00 per pound. How many pounds of each are in the mixture? _____

5. A collection of quarters and nickels is worth $3.70. There are 22 coins in all. How many of each are there? _____

6. Two investments are made totaling $16,000. For a certain year, these investments yield $970 in simple interest. Part of the $16,000 is invested at 5% and the rest at 7%. How much is invested at 7%? _____

7. One night a theater sold 548 movie tickets. An adult's ticket costs $6.50, and a child's ticket costs $3.50. In all, $2881 was taken in. How many of each kind of ticket were sold?
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EXTRA PRACTICE 18 (continued)
Total Value, Mixture, and Motion Problems
Use after Section 3.3

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8. A train leaves town traveling north at 40 km/h. Two hours later another train leaves on a parallel track and travels north at 45 km/h. How far from town will the second train overtake the first? _____

9. Two cars leave town at the same time going in opposite directions. One travels at 50 mph, and the other travels at 60 mph. In how many hours will they be 495 miles apart? _____

10. A boat traveled for two hours downstream with a 5 km/h current. The return trip against the same current took four hours. Find the speed of the boat in still water. _____

11. An airplane flew for three hours with a 30-mph tail wind. The return flight against the same wind took $3\frac{1}{2}$ hours. Find the speed of the airplane in still air. _____

12. A canoeist paddled two hours with a 3 km/h current to a fishing site. The return trip against the same current took six hours. Find the speed of the canoe in still water. _____

13. A train leaves Smithville and travels south at a speed of 60 mph. Three hours later, a second train leaves on a parallel track and travels south at 90 mph. How far from the station will they meet? _____

14. A small boat took 2 hr to make a trip downstream with a 4-mph current. The return trip against the same current took 3 hr. Find the speed of the boat in still water. _____