

Challenge: Skills and Applications

For use with pages 32–39

In Exercises 1–6, use the following information.

You are trying to save \$20 a week to buy a new CD player. During the last 4 weeks you have saved \$35, \$15, \$10, and \$12. You want to know how much you need to save this week to average \$20 for the 5 weeks.

1. How much have you saved so far?
2. Write a verbal model that relates the money you have saved so far, the money you need to save this week, the number of weeks, and the average savings that is your goal.
3. Assign labels to the parts of the verbal model.
4. Use the labels to translate the verbal model into an algebraic model.
5. Use mental math to solve the equation.
6. Interpret your solution.

In Exercises 7–9, use the following information.

Maurice's Music Store has selected CDs on sale for \$9.50 each plus 5.75% sales tax. You have \$48 you can spend on CDs.

7. Write an inequality that shows how many CDs you can buy.
8. Find the largest whole number that is a solution to the inequality. Use estimation and mental math to help.
9. How many CDs can you buy?

In Exercises 10–12, use the following information.

Olga Weatherby is on a road to Houston that has a speed limit of 65 miles per hour. She is 143 miles from Houston and would like to be there in two hours.

10. Can Olga make it to Houston in 2 hours if she drives at the speed limit?
11. Can Olga make it to Houston in 2.25 hours if she drives at the speed limit?
12. Write an inequality to model this situation, where t is driving time to Houston.