

Practice C

For use with pages 160–165

High School Enrollments In Exercises 1–3, use the following information.

Lincoln High's enrollment decreases at an average rate of 75 students per year, while Erie High's enrollment increases at an average rate of 60 students per year. Lincoln High has 3150 students, and Erie High has 2475 students. If enrollments continue to change at the same rates, when will the two schools have an equal number of students?

- Write a verbal model for this problem.
- Write an equation for the model.
- Solve the equation and answer the question.

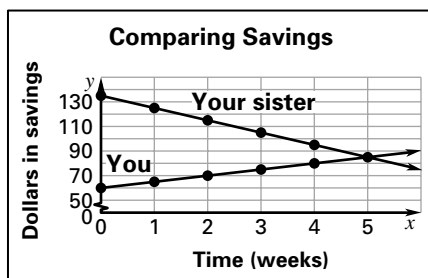
Saving and Spending In Exercises 7–12, use the following information.

Currently, you have \$60 and your sister has \$135. You decide to save \$5 of your allowance each week, while your sister decides to spend her whole allowance plus \$10 each week. How long will it be before you have as much money as your sister?

- Write a verbal model for this problem.
- Write an equation for the model.
- Solve the equation and answer the question.
- Copy and complete the table below using the information from the original problem statement.

Week	0	1	2	3	4	5
Your money						
Sister's money						

- Use the graph to check the answer. Is the solution correct? Explain.



- What can you conclude about the amounts of money the two of you have after week 5?

Growing Tomatoes In Exercises 4–6, use the following information.

Suppose you are growing two different varieties of tomato plants. The beefsteak tomato plant is 12 inches tall and is growing at the rate of $\frac{3}{2}$ inches per week. The cherry tomato plant is 6 inches tall and is growing at the rate of 2 inches per week. In how many weeks will the two plants be the same height?

- Write a verbal model for this problem.
- Write an equation for the model.
- Solve the equation and answer the question.

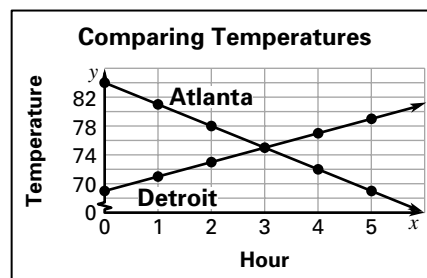
Temperature Change In Exercises 13–18, use the following information.

In Detroit the temperature is 69° F and is rising at a rate of 2° F per hour. In Atlanta the temperature is 84° F and is falling at a rate of 3° F per hour. If the temperatures continue to change at the same rates, how long will it be before the temperatures are the same?

- Write a verbal model for this problem.
- Write an equation for the model.
- Solve the equation and answer the question.
- Copy and complete the table below using the information from the original problem statement.

Hour	0	1	2	3	4	5
Detroit temperature						
Atlanta temperature						

- Use the graph to check the answer. Is the solution correct? Explain.



- What can you conclude about the temperatures of the two cities after 3 hours?