

Application Lesson Opener

For use with pages 418–424

Use the following information for Questions 1 and 2.

You sold two different types of wrapping paper for your band fund-raiser. One type sold for \$6 a roll and the other for \$8 a roll. You collected a total of \$92 for the 14 rolls you sold.

1. Let x represent the number of \$6 rolls you sold and y the number of \$8 rolls you sold. Which system of equations can be used to model this problem? Why?

A. $x + y = 92$
 $6x + 8y = 14$

B. $x + y = 14$
 $6x + 8y = 92$

C. $x - y = 14$
 $6x - 8y = 92$

D. $x - y = 92$
 $6x - 8y = 92$

2. What method would you use to solve the system of equations you chose in Question 1? Explain your answer.

Use the following information for Questions 3 and 4.

You paid \$31 to ship 8 packages. The shipping for each package in one group was \$3.50. The shipping for each package in the other group was \$5.

3. Let x represent the number of \$3.50 packages and y represent the number of \$5 packages. Which system of equations can be used to model this problem? Why?

A. $x + y = 3.50$
 $x + y = 5$

B. $x + y = 31$
 $3.5x + 5y = 8$

C. $x + y = 31$
 $x - y = 8$

D. $x + y = 8$
 $3.5x + 5y = 31$

4. What method would you use to solve the system of equations you chose in Question 3? Explain your answer.

Graphing Calculator Lesson Opener

For use with pages 425–431

Enter the linear system into your calculator.
Describe the two lines graphed and the solution.

1. $x + y = 3$
 $2x + y = 2$
 2. $x - 2y = -6$
 $-2x + 4y = 12$
 3. $3x + y = 1$
 $3x + y = -2$
 4. $x - y = -2$
 $x - y = 3$
 5. $2x - y = 3$
 $3x + y = 1$
 6. $x - 3y = 2$
 $3y - x = -2$
 7. $2x - 4y = 6$
 $x - 2y = 3$
 8. $2x - y = 3$
 $3x + y = 1$
9. Which systems have one solution? What is true about the graphs of these linear systems?
10. Which systems have no solutions? What is true about the graphs of these linear systems?
11. Which systems have infinitely many solutions? What is true about the graphs of these linear systems?
12. Make a conjecture about the graph of a linear system and its solution.