Methods for Solving Linear Systems

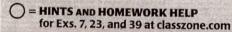| Method	Example	When to Use
Graphing (p. 376)	$3x - 2y = 2$ $x + y = 4$	When you want to see the lines that the equations represent
Substitution (p. 383)	$y = 4 - 2x$ $4x + 3y = 8$	When one equation is already solved for x or y
Addition (p. 391)	$4x + 7y = 15$ $6x - 7y = 5$	When the coefficients of one variable are opposites
Subtraction (p. 392)	$3x + 5y = -13$ $3x + y = -5$	When the coefficients of one variable are the same
Multiplication (p. 398)	$9x + 2y = 38$ $3x - 5y = 7$	When no corresponding coefficients are the same or opposites

7.4 EXERCISES

HOMEWORK KEY

◆ = **MULTIPLE CHOICE PRACTICE**
Exs. 15, 16, 31, 36, and 46–48

○ = **HINTS AND HOMEWORK HELP**
for Exs. 7, 23, and 39 at classzone.com

SKILLS · PROBLEM SOLVING · REASONING

1. **VOCABULARY** What is the least common multiple of 12 and 18?

2. **WRITING** *Explain* how to solve the linear system using the elimination method. $2x - 3y = -4$ **Equation 1** $7x + 9y = -5$ **Equation 2**

EXAMPLE 1
on p. 398
for Exs. 3–16

SOLVING LINEAR SYSTEMS Solve the linear system using elimination.

3. $x + y = 2$
   $2x + 7y = 9$

4. $3x - 2y = 3$
   $-x + y = 1$

5. $4x + 3y = 8$
   $x - 2y = 13$

6. $2x - 9y = 15$
   $-x + 3y = -6$

7. $-4x + y = 5$
   $11x - 9y = 5$

8. $2x + 5y = 18$
   $3x - 10y = -8$

9. $2x - 10y = 6$
   $-3x + 2y = -22$

10. $x + 3y = 13$
    $-3x - 2y = -4$

11. $4x - y = 9$
    $5x + 2y = 21$

12. $10x - 9y = 46$
    $-2x + 3y = 10$

13. $8x - 5y = 11$
    $4x - 3y = 5$

14. $11x - 20y = 28$
    $3x + 4y = 36$

15. ◆ **MULTIPLE CHOICE** What is the solution of the linear system $3x - 4y = 1$ and $-x + 3y = -7$?

Ⓐ $(-4, -5)$ Ⓑ $(-4, 5)$ Ⓒ $(-5, -4)$ Ⓓ $(5, -4)$