

**GUIDED PRACTICE** for Example 4

7. **WHAT IF?** In Example 4, suppose it takes the kayaker 5 hours to travel 10 miles upstream and 2 hours to travel 10 miles downstream. The speed of the current remains constant during the trip. Find the average speed of the kayak in still water and the speed of the current.

## 7.3 EXERCISES

**HOMEWORK KEY**

= **WORKED-OUT SOLUTIONS**  
on p. WS1 for Exs. 17 and 41

= **TAKS PRACTICE AND REASONING**  
Exs. 15, 22, 36, 44, 46, and 47

= **MULTIPLE REPRESENTATIONS**  
Ex. 42

**SKILL PRACTICE**

1. **VOCABULARY** Give an example of a linear system in two variables that can be solved by first adding the equations to eliminate one variable.
2. **WRITING** Explain how to solve the linear system shown using the elimination method.
- $$2x - y = 2 \quad \text{Equation 1}$$
- $$2x + 3y = 22 \quad \text{Equation 2}$$

**EXAMPLE 1**

on p. 444  
for Exs. 3–8

**USING ADDITION** Solve the linear system using elimination.

- |                                    |                                      |                                       |
|------------------------------------|--------------------------------------|---------------------------------------|
| 3. $x + 2y = 13$<br>$-x + y = 5$   | 4. $9x + y = 2$<br>$-4x - y = -17$   | 5. $-3x - y = 8$<br>$7x + y = -12$    |
| 6. $3x - y = 30$<br>$-3x + 7y = 6$ | 7. $-9x + 4y = -17$<br>$9x - 6y = 3$ | 8. $-3x - 5y = -7$<br>$-4x + 5y = 14$ |

**EXAMPLE 2**

on p. 445  
for Exs. 9–15

**USING SUBTRACTION** Solve the linear system using elimination.

- |                                      |                                      |                                       |
|--------------------------------------|--------------------------------------|---------------------------------------|
| 9. $x + y = 1$<br>$-2x + y = 4$      | 10. $x - y = -4$<br>$x + 3y = 4$     | 11. $2x - y = 7$<br>$2x + 7y = 31$    |
| 12. $6x + y = -10$<br>$5x + y = -10$ | 13. $5x + 6y = 50$<br>$-x + 6y = 26$ | 14. $4x - 9y = -21$<br>$4x + 3y = -9$ |

15. **TAKS REASONING** Which ordered pair is a solution of the linear system  $4x + 9y = -2$  and  $11x + 9y = 26$ ?

(A)  $(-2, 4)$       (B)  $(2, -4)$       (C)  $(4, -2)$       (D)  $(4, 2)$

**EXAMPLE 3**

on p. 445  
for Exs. 16–22

**ARRANGING LIKE TERMS** Solve the linear system using elimination.

- |                                    |   |                                      |
|------------------------------------|---|--------------------------------------|
| 16. $2x - y = 32$<br>$y - 5x = 13$ | <b>17.</b> $-8y + 6x = 36$<br>$6x - y = 15$ | 18. $2x - y = -11$<br>$y = -2x - 13$ |
| 19. $-x - y = 14$<br>$x = 5y - 38$ | 20. $11y - 3x = 18$<br>$-3x = -16y + 33$    | 21. $-5x + y = -23$<br>$-y = 3x - 9$ |

22. **TAKS REASONING** Which ordered pair is a solution of the linear system  $2x + y = 10$  and  $3y = 2x + 6$ ?

(A)  $(-3, -4)$       (B)  $(3, 4)$       (C)  $(-4, 3)$       (D)  $(4, 3)$