

**LESSON**  
**7.4****Practice A**

For use with pages 451–457

**Match the linear system with an equivalent linear system.**

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| <b>1.</b> $5x - 2y = 8$<br>$7x + 8y = 3$     | <b>2.</b> $7x + 8y = 3$<br>$8x - 2y = 5$   | <b>3.</b> $5x + 2y = 8$<br>$7x + 8y = 3$   |
| <b>A.</b> $-20x - 8y = -32$<br>$7x + 8y = 3$ | <b>B.</b> $32x - 8y = 20$<br>$7x + 8y = 3$ | <b>C.</b> $20x - 8y = 32$<br>$7y + 8y = 3$ |

**Describe the first step you would use to solve the linear system.**

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| <b>4.</b> $x + y = 4$<br>$3x - 7y = 10$    | <b>5.</b> $2x + 6y = -1$<br>$-4x + 7y = 8$  | <b>6.</b> $3x - 6y = -1$<br>$x + y = 4$  |
| <b>7.</b> $5x - 2y = -5$<br>$10x - 3x = 7$ | <b>8.</b> $-3x + 9y = 13$<br>$7x - 3y = 14$ | <b>9.</b> $4x - y = 7$<br>$10x + 2y = 8$ |

**Solve the linear system by using elimination.**

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| <b>10.</b> $x + y = 3$<br>$-2x + 4y = 6$       | <b>11.</b> $4x + y = -8$<br>$3x + 3y = 3$       | <b>12.</b> $3x - y = 10$<br>$2x + 5y = 35$     |
| <b>13.</b> $5x - 4y = 42$<br>$x - 6y = 24$     | <b>14.</b> $2x + 3y = -10$<br>$-4x + 5y = -2$   | <b>15.</b> $5x + 6y = 100$<br>$2x + 3y = 46$   |
| <b>16.</b> $3x - 5y = -50$<br>$12x + 2y = -46$ | <b>17.</b> $-6x - 5y = -43$<br>$7x + 15y = 41$  | <b>18.</b> $8x - 6y = 8$<br>$4x + 5y = 36$     |
| <b>19.</b> $4x + 5y = 100$<br>$3x - 2y = 6$    | <b>20.</b> $-3x + 11y = -38$<br>$2x + 9y = -40$ | <b>21.</b> $5x - 8y = -35$<br>$-7x - 3y = -22$ |

- 22. Baseball Game** Two families go to a baseball game. One family purchases two adult tickets and three youth tickets for \$33. Another family purchases three adult tickets and two youth tickets for \$37. Let  $x$  represent the cost in dollars of one adult ticket and let  $y$  represent the cost in dollars of one youth ticket. The linear system given by  $2x + 3y = 33$  and  $3x + 2y = 37$  represents this situation.

- Solve the linear system to find the cost of one adult and one youth ticket.
- How much would it cost two adults and five youths to attend the game?

- 23. Electricians** Two different electrical businesses charge different rates. Business A charges \$30 for a service call, plus an additional \$45 per hour for labor. Business B charges \$45 for a service call, plus an additional \$40 per hour for labor.

- Let  $x$  represent the number of hours of labor and let  $y$  represent the total charge in dollars. Write a linear system that you could use to find the lengths of a service call for which both businesses charge the same amount.
- Solve the linear system.
- When will the businesses charge the same amount?