## Differentiated Instruction Resources

- L3 Ch. 3 Test
- L2 Adapted Ch. 3 Test
- L4 Ch. 3 Alternative Assessment
- L3 Spanish Ch. 3 Test
- L4 Spanish Ch. 3 Alternative Assessment
- ExamView CD-ROM
- Ch. 3 Pre-Made Test
- Make your own Ch. 3 test
- Online Chapter 3 Test at www.PHSchool.com


Classify each system without graphing. Then graph each system. 1-2. See back of book.

1. $\left\{\begin{array}{l}y=5 x-2 \\ y=x+4\end{array}\right.$
2. $\left\{\begin{array}{l}3 x+2 y=9 \\ 3 x+2 y=4\end{array}\right.$

Solve using substitution.
3. $\left\{\begin{aligned} 3 x+2 y & =9 \\ x+y & =4\end{aligned}\right.$
4. $\left\{\begin{array}{l}0.3 x-y=0 \\ y=2+0.25 x\end{array}\right.$
$(1,3)$

$$
(40,12)
$$

Solve using elimination.
5. $\left\{\begin{array}{l}3 x-y=1 \\ 2 x+y=14\end{array}\right.$
6. $\left\{\begin{array}{l}4 x-2 y=3 \\ 2 y-4 x=\frac{3}{2}\end{array}\right.$
$(3,8)$
no solution
7. Writing Describe how to identify situations in which substitution may be the best method for solving a system of equations. See margin.

Graph each system. 8-11. See back of book.
8. $\left\{\begin{array}{l}2 x+y<3 \\ x<y+3\end{array}\right.$
9. $\left\{\begin{array}{l}3 y+9 x<3 \\ y \geq 2\end{array}\right.$
10. $\left\{\begin{array}{l}|x+3|>y \\ y>2 x-1\end{array}\right.$
11. $\left\{\begin{array}{l}y>-2 x+6 \\ y \leq \frac{1}{4} x-3\end{array}\right.$

Graph each system of constraints. Find all vertices. Evaluate the objective function at each vertex to find the maximum or minimum value.
12. $\left\{\begin{array}{c}x \leq 5 \\ y \leq 4 \\ x \geq 0, y \geq 0\end{array}\right.$

Maximum for $P=2 x+y$
12-13. See back of book.
14. Sales A pizza shop makes $\$ 1.50$ on each small pizza and $\$ 2.15$ on each large pizza. On a typical Friday, it sells between 70 and 90 small pizzas and between 100 and 140 large pizzas. The shop can make no more than 210 pizzas in a day. How many of each size of pizza must be sold in order to maximize profit? 70 small, 140 large
15. Open-Ended Write a system of constraints whose graph is a parallelogram. Check students' work.

Graph each point in coordinate space.
16. $(0,5,0)$
17. $(-1,0,0)$
18. $(1,0,4)$
19. $(3,0,-1)$
20. $(1,4,-1)$
21. $(2,-2,3)$

16-21. See margin pp. 164-165.
Graph each equation. Use intercepts and traces.
22. $x+y+z=6$
23. $2 x-3 y+z=6$
24. $-2 x+y-5 z=10$
25. $x-y+2 z=8$

22-26. See back of book.
26. You are planning a party. You have $\$ 24$ to spend on decorations. Balloons cost $\$ .06$ each, party favors cost $\$ .48$ each, and streamers cost $\$ .08$ each. Write and graph an equation for the number of each you can buy.

## Solve each system of equations.

27. $\left\{\begin{aligned} x-y+z & =0 \\ 3 x-2 y+6 z & =9 \\ -x+y-2 z & =-2\end{aligned}\right.$ 28. $\left\{\begin{aligned} & 2 x+y+z= 8 \\ & x+2 y-z=-5 \\ & z=2 x-y\end{aligned}\right.$

Write a system of equations to solve each problem.
29. Investing A company invested $\$ 50,000$ in three funds. After a year it had $\$ 54,500$. The growth fund had a return rate of $12 \%$, the income fund had a return rate of $8 \%$, and the money market fund had a return rate of $5 \%$. The company invested twice as much in the income fund as in the money market fund. How much did the company invest in each fund? 29-31. See back of book.
30. Earnings A student can make a weekly salary of $\$ 200$ plus $15 \%$ commission on sales at the Radio Barn or a weekly salary of $\$ 300$ plus $10 \%$ commission on sales at Woofer, Etc. For what amount of sales do these two jobs pay the same?
31. Purchasing To help passengers stranded by bad weather one winter, an airport made the purchases detailed below. Find the cost of a cot, a table, and a chair.

|  | Number <br> of Cots | Number <br> of Tables | Number <br> of Chairs | Total <br> Costs (\$) |
| :--- | :---: | :---: | :---: | :---: |
| Nov | 10 | 10 | 40 | 1950 |
| Dec | 20 | 0 | 20 | 1800 |
| Jan | 10 | 5 | 20 | 1350 |

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7. Substitution is used when an equation is easily solved for one of the variables.

8. 


18.


