NAME _____ DATE _____

Practice 40

FOR USE WITH SECTION 7.1

Solve each system of equations.

1. $y = 3x$
$x + y = 20$

2. $x = y - 7$
$2x + y = 1$

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

4. $y - 5x = 3$
$5x + 3y = -7$

5. $3x + y = 1$
$2y - x = 9$

6. $y = -1.7x$
$3y + 0.3x = 24$

7. $x + 4y = 12$
$3x - y = 10$

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

9. $4.2x + y = 3$
$x - 5y = 7$

10. $2x - y = 10$
$3x + \frac{1}{2}y = 17$

11. $-y - 4x = 6$
$3x + y = 5$

12. $7x + 3y = 1$
$x - \frac{1}{3}y = 7$

Use a graphing calculator or graphing software to solve each system of equations. Round the values of *x* and *y* to the nearest tenth. (Be careful: The graphs of the equations may intersect more than once.)

13. $y = 3(1.5)^x$
$y = 6 - 0.75x$

14. $y = 21(0.6)^x$
$y = -1.5x + 14$

15. $y = 0.5x^2$
$y = -3x$

16. $y = x^2 - 5x + 4$
$y = 2x - 6$

17. $y = -x^2 + 3x - 7$
$y = 0.8(x - 1)^2$

18. $y = x^2$
$y = 1.6(1.05)^x$

19. Suppose a local movie theater charges \$7 for admission. Suppose, also, that a VCR costs \$148 and that movies cost \$3 to rent. How many movies would you have to see before the cost of seeing the movies in a theater equals the cost of seeing them on a VCR?

20. Before a basketball game, a player's free-throw percentage (percent of free throws made) was 60%. During the game the player made 4 out of 5 free throws and raised her average to 64%. How many free throws had she attempted before this game?

21. Pedro and Yoon He drew up models, based on past performance, to predict the annual profit P (in millions of dollars) of their company t years after 1995. Pedro used the equation $P = 2.6(1.4)^t$ as his model. Yoon He used the equation $P = 2.6 + 1.8t$. For what year after 1995 will the two models predict the same profit? What will the profit be?

22. Open-ended Problem Given a system of equations, describe how you would decide whether to use graphing or substitution to solve the system.