*Write a SYSTEM OF LINEAR EQUATIONS for each problem then solve by graphing!

HW: DUE BLOCK DAY!

USING TOOLS In Exercises 23–26, use a graphing calculator to solve the system of linear equations.

23. $0.2x + 0.4y = 4$
$-0.6x + 0.6y = -3$

24. $-1.6x - 3.2y = -24$
$2.6x + 2.6y = 26$

25. $-7x + 6y = 0$
$0.5x + y = 2$

26. $4x - y = 1.5$
$2x + y = 1.5$

27. **MODELING WITH MATHEMATICS** You have 40 minutes to exercise at the gym, and you want to burn 300 calories total using both machines. How much time should you spend on each machine? *(See Example 3.)*

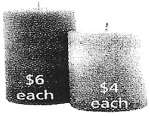
Elliptical Trainer

8 calories per minute

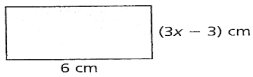
Stationary Bike

6 calories per minute

28. **MODELING WITH MATHEMATICS** You sell small and large candles at a craft fair. You collect $144 selling a total of 28 candles. How many of each type of candle did you sell?



29. **MATHEMATICAL CONNECTIONS** Write a linear equation that represents the area and a linear equation that represents the perimeter of the rectangle. Solve the system of linear equations by graphing. Interpret your solution.



30. **THOUGHT PROVOKING** Your friend's bank account balance (in dollars) is represented by the equation $y = 25x + 250$, where x is the number of months. Graph this equation. After 6 months, you want to have the same account balance as your friend. Write a linear equation that represents your account balance. Interpret the slope and y-intercept of the line that represents your account balance.

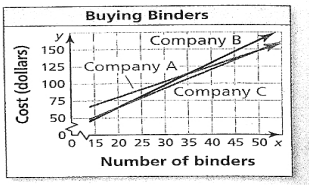
31. **COMPARING METHODS** Consider the equation $x + 2 = 3x - 4$.

a. Solve the equation using algebra.

b. Solve the system of linear equations $y = x + 2$ and $y = 3x - 4$ by graphing.

c. How is the linear system and the solution in part (b) related to the original equation and the solution in part (a)?

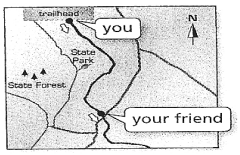
32. **HOW DO YOU SEE IT?** A teacher is purchasing binders for students. The graph shows the total costs of ordering x binders from three different companies.



a. For what numbers of binders are the costs the same at two different companies? Explain.

b. How do your answers in part (a) relate to systems of linear equations?

33. **MAKING AN ARGUMENT** You and a friend are going hiking but start at different locations. You start at the trailhead and walk 5 miles per hour. Your friend starts 3 miles from the trailhead and walks 3 miles per hour.



a. Write and graph a system of linear equations that represents this situation.

b. Your friend says that after an hour of hiking you will both be at the same location on the trail. Is your friend correct? Use the graph from part (a) to explain your answer.

Maintaining Mathematical Proficiency

Reviewing what you learned in previous grades and lessons

Solve the literal equation for y. *(Section 1.5)*

34. $10x + 5y = 5x + 20$

35. $9x + 18 = 6y - 3x$

36. $\frac{3}{4}x + \frac{1}{4}y = 5$