

PROBLEM SOLVING

EXAMPLE 5

on p. 313
for Exs. 38–41

38. **GARDENING** The diagram shows the prices of two types of ground cover plants. Write an equation in standard form that models the possible combinations of vinca and phlox plants a gardener can buy for \$300. List three of these possible combinations.



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39. **NUTRITION** A snack mix requires a total of 120 ounces of some corn cereal and some wheat cereal. Corn cereal comes in 12 ounce boxes.
- The last time you made this mix, you used 5 boxes of corn cereal and 4 boxes of wheat cereal. How many ounces are in a box of wheat cereal?
 - Write an equation in standard form that models the possible combinations of boxes of wheat and corn cereal you can use.
 - List all possible combinations of whole boxes of wheat and corn cereal you can use to make the snack mix.

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40. **TX TAKS REASONING** A dog kennel charges \$20 per night to board your dog. You can also have a doggie treat delivered to your dog for \$5. Write an equation that models the possible combinations of nights at the kennel and doggie treats that you can buy for \$100. Graph the equation. *Explain* what the intercepts of the graph mean in this situation.
41. **◆ MULTIPLE REPRESENTATIONS** As the student council treasurer, you prepare the budget for your class rafting trip. Each large raft costs \$100 to rent, and each small raft costs \$40 to rent. You have \$1600 to spend.
- Writing an Equation** Write an equation in standard form that models the possible combinations of small rafts and large rafts that you can rent.
 - Drawing a Graph** Graph the equation from part (a).
 - Making a Table** Make a table that shows several combinations of small and large rafts that you can rent.
42. **TX TAKS REASONING** One bus ride costs \$.75. One subway ride costs \$1.00. A monthly pass can be used for unlimited subway and bus rides and costs the same as 36 subway rides plus 36 bus rides.
- Write an equation in standard form that models the possible combinations of bus and subway rides with the same value as the pass.
 - You ride the bus 60 times in one month. How many times must you ride the subway in order for the cost of the rides to equal the value of the pass? *Explain* your answer.