

29. **TAKS REASONING** Consider the equation  $-\frac{1}{4}x + 6 = \frac{1}{2}x + 3$ .
- Solve the equation using algebra.
  - Solve the linear system below using a graph.

$$y = -\frac{1}{4}x + 6 \quad \text{Equation 1}$$

$$y = \frac{1}{2}x + 3 \quad \text{Equation 2}$$

- How is the linear system in part (b) related to the original equation?
  - Explain* how to use a graph to solve the equation  $-\frac{2}{5}x + 5 = \frac{1}{5}x + 2$ .
30. **CHALLENGE** The three lines given below form a triangle. Find the coordinates of the vertices of the triangle.

**Line 1:**  $-3x + 2y = 1$

**Line 2:**  $2x + y = 11$

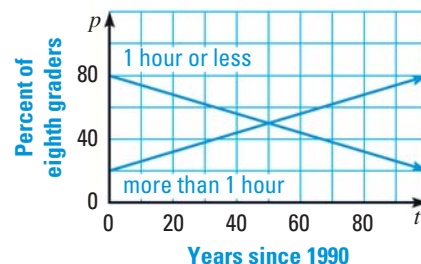
**Line 3:**  $x + 4y = 9$

## PROBLEM SOLVING

### EXAMPLES 3 and 4

on pp. 429–430  
for Exs. 31–33

31. **TELEVISION** The graph shows a projection, from 1990 on, of the percent of eighth graders who watch 1 hour or less of television on a weekday and the percent of eighth graders who watch more than 1 hour of television on a weekday. Use the graph to predict the year when the percent of eighth graders who watch 1 hour or less will equal the percent who watch more than 1 hour.



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32. **TAKS REASONING** A car dealership is offering interest-free car loans for one day only. During this day, a salesperson at the dealership sells two cars. One of his clients decides to pay off his \$17,424 car in 36 monthly payments of \$484. His other client decides to pay off his \$15,840 car in 48 monthly payments of \$330. Which system of equations can be used to determine the number  $x$  of months after which both clients will have the same loan balance  $y$ ?

(A)  $y = -484x$   
 $y = -330x$

(B)  $y = -484x + 17,424$   
 $y = -330x + 15,840$

(C)  $y = -484x + 15,840$   
 $y = -330x + 17,424$

(D)  $y = 484x + 17,424$   
 $y = 330x + 15,840$

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33. **CRAFTS** Kirigami is the Japanese art of making paper designs by folding and cutting paper. A student sells small and large greeting cards decorated with kirigami at a craft fair. The small cards cost \$3 per card, and the large cards cost \$5 per card. The student collects \$95 for selling a total of 25 cards. How many of each type of card did the student sell?

