

39. **MULTI-STEP PROBLEM** Two people are training for a speed ice-climbing event. During a practice climb, one climber starts 15 seconds after the first climber. The rates that the climbers ascend are shown.



- Let d be the distance (in feet) traveled by a climber t seconds after the first person starts climbing. Write a linear system that models the situation.
- Graph the linear system from part (a). Does the second climber catch up to the first climber? *Explain.*

40. **TAKS REASONING** Two employees at a banquet facility are given the task of folding napkins. One person starts folding napkins at a rate of 5 napkins per minute. The second person starts 10 minutes after the first person and folds napkins at a rate of 4 napkins per minute.

- Model** Let y be the number of napkins folded x minutes after the first person starts folding. Write a linear system that models the situation.
- Solve** Solve the linear system.
- Interpret** Does the solution of the linear system make sense in the context of the problem? *Explain.*

41. **CHALLENGE** An airplane has an average air speed of 160 miles per hour. The airplane takes 3 hours to travel with the wind from Salem to Lancaster. The airplane has to travel against the wind on the return trip. After 3 hours into the return trip, the airplane is 120 miles from Salem. Find the distance from Salem to Lancaster. If the problem cannot be solved with the information given, *explain* why.

MIXED REVIEW FOR TAKS **TAKS PRACTICE** at classzone.com

REVIEW
Lesson 7.1;
TAKS Workbook

42. **TAKS PRACTICE** A restaurant served 625 customers over a 2 week period. The store owner estimates that 150% as many customers were served in the first week as in the second week. Which system of equations can be used to determine x , the number of customers served in the first week, and y , the number of customers served in the second week? **TAKS Obj. 4**

- Ⓐ $x = 625$
 $y = 1.5x$ Ⓑ $x + y = 625$
 $x = 1.5y$ Ⓒ $xy = 625$
 $x = 1.5y$ Ⓓ $x + 1.5y = 625$
 $y = 1.5x$

REVIEW
TAKS Preparation
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43. **TAKS PRACTICE** $\triangle ABC$ is similar to $\triangle DEF$. Which scale factor was used to transform $\triangle ABC$ to $\triangle DEF$? **TAKS Obj. 6**

- Ⓕ $\frac{2}{5}$ Ⓖ $\frac{3}{5}$
Ⓖ $\frac{2}{3}$ Ⓙ $\frac{5}{2}$

