

32.  **TAKS REASONING** Write a linear system so that it has infinitely many solutions, and one of the equations is $y = 3x + 2$.
33.  **TAKS REASONING** Write a linear system so that it has no solution and one of the equations is $7x - 8y = -9$.
34. **REASONING** Give a counterexample for the following statement:
If the graphs of the equations of a linear system have the same slope, then the linear system has no solution.
35. **CHALLENGE** Find values of p , q , and r that produce the solution(s).
- No solution
 - Infinitely many solutions
 - One solution of $(4, 1)$

$$px + qy = r \quad \text{Equation 1}$$

$$2x - 3y = 5 \quad \text{Equation 2}$$

PROBLEM SOLVING

EXAMPLE 4

on p. 461
for Exs. 36–38

36. **RECREATION** One admission to a roller skating rink costs x dollars and renting a pair of skates costs y dollars. A group pays \$243 for admission for 36 people and 21 skate rentals. Another group pays \$81 for admission for 12 people and 7 skate rentals. Is there enough information to determine the cost of one admission to the roller skating rink? *Explain.*

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37. **TRANSPORTATION** A passenger train travels from New York City to Washington, D.C., then back to New York City. The table shows the number of coach tickets and business class tickets purchased for each leg of the trip. Is there enough information to determine the cost of one coach ticket? *Explain.*

| Destination | Coach tickets | Business class tickets | Money collected (dollars) |
|------------------|---------------|------------------------|---------------------------|
| Washington, D.C. | 150 | 80 | 22,860 |
| New York City | 170 | 100 | 27,280 |

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38. **PHOTOGRAPHY** In addition to taking pictures on your digital camera, you can record 30 second movies. All pictures use the same amount of memory, and all 30 second movies use the same amount of memory. The number of pictures and 30 second movies on 2 memory cards is shown.

- Is there enough information given to determine the amount of memory used by a 30 second movie? *Explain.*
- Given that a 30 second movie uses 50 times the amount of memory that a digital picture uses, can you determine the amount of memory used by a 30 second movie? *Explain.*

| | | |
|---------------------------------|-----|------|
| Size of card (megabytes) | 64 | 256 |
| Pictures | 450 | 1800 |
| Movies | 7 | 28 |