43. **GEOMETRY** Write an equation in standard form that models the possible lengths and widths (in feet) of a rectangle having the same perimeter as a rectangle that is 10 feet wide and 20 feet long. Make a table that shows five possible lengths and widths of the rectangle.

44. **CHALLENGE** You are working in a chemistry lab. You have 1000 milliliters of pure acid. A dilution of acid is created by adding pure acid to water. A 40% dilution contains 40% acid and 60% water. You have been asked to make a 40% dilution and a 60% dilution of pure acid.

   a. Write an equation in standard form that models the possible quantities of each dilution you can prepare using all 1000 milliliters of pure acid.

   b. You prepare 700 milliliters of the 40% dilution. How much of the 60% dilution can you prepare?

   c. How much water do you need to prepare 700 milliliters of the 40% dilution?

MIXED REVIEW FOR TAKS

45. **TAKS PRACTICE** The dollar amount that a catering company charges for a party is $19x + 100$ where x is the number of guests. If the catering budget for a certain party is $600, how many guests can attend? *TAKS Obj. 4*

  (A) 21   **(B)** 26   **(C)** 31   **(D)** 36

46. **TAKS PRACTICE** The amount of liquid that can fill a jar represents the jar's _____. *TAKS Obj. 10*

  (F) area   **(G)** surface area   **(H)** volume   **(J)** circumference

QUIZ *for Lessons 5.1–5.4*

Write an equation in slope-intercept form of the line that passes through the given point and has the given slope m.

  1. $(2, 5)$, $m = 3$ *(p. 292)*   **2.** $(-1, 4)$, $m = -2$ *(p. 292)*   **3.** $(0, -7)$, $m = 5$ *(p. 283)*

Write an equation in slope-intercept form of the line that passes through the given points.

  4. $(0, 2)$, $(9, 5)$ *(p. 283)*   **5.** $(5, 7)$, $(19, 14)$ *(p. 292)*   **6.** $(4, 24)$, $(-11, 19)$ *(p. 292)*

Write an equation in (a) point-slope form and (b) standard form of the line that passes through the given points. *(pp. 302, 311)*

  7. $(-5, 2)$, $(-4, 3)$ **8.** $(0, -1)$, $(-6, -9)$ **9.** $(3, 9)$, $(1, 1)$

10. **DVDS** The table shows the price per DVD for different quantities of DVDs. Write an equation that models the price per DVD as a function of the number of DVDs purchased. *(p. 302)*

Number of DVDs purchased	1	2	3	4	5	6
Price per DVD (dollars)	20	18	16	14	12	10