45. CHALLENGE To use a rock climbing wall at a college, a person who does not attend the college has to pay a \$5 certification fee plus \$3 per visit. The total cost C (in dollars) for a person who does not attend the college is given by $C = 3v + 5$ where v is the number of visits to the rock climbing wall. A student at the college pays only an \$8 certification fee, so the total cost for a student is given by $C = 8$.

   a. Graph both equations in the same coordinate plane. At what point do the lines intersect? What does the point of intersection represent?

   b. When will a nonstudent pay more than a student? When will a student pay more than a nonstudent? *Explain.*

MIXED REVIEW FOR TAKS
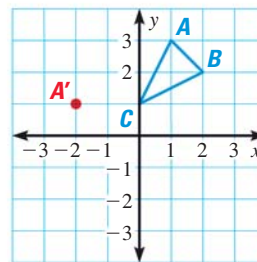
46. **TAKS PRACTICE** Which of the following equations is equivalent to $y = 3x + 9$? *TAKS Obj. 2*

  A $-3y = x - 9$ **B** $\frac{y}{3} = x + 3$ **C** $y = 2x + 6$ **D** $y = 5x + 15$

47. **TAKS PRACTICE** Triangle ABC is translated so that A is mapped to A'. Which coordinate pair represents B'? *TAKS Obj. 6*

  F $(-3, -1)$ **G** $(-1, 0)$

  H $(0, 0)$ **J** $(0, -1)$

QUIZ *for Lessons 4.4–4.5*

Find the slope of the line that passes through the points. *(p. 235)*

  1. $(3, -11)$ and $(0, 4)$ **2.** $(2, 1)$ and $(8, 4)$ **3.** $(-4, -1)$ and $(-1, -1)$

Identify the slope and *y*-intercept of the line with the given equation. *(p. 244)*

  4. $y = -x + 9$ **5.** $2x + 9y = -18$ **6.** $-x + 6y = 21$

Graph the equation. *(p. 244)*

  7. $y = -2x + 11$ **8.** $y = \frac{5}{3}x - 8$ **9.** $-3x - 4y = -12$

10. RED OAKS Red oak trees grow at a rate of about 2 feet per year. You buy and plant two red oak trees, one that is 6 feet tall and one that is 8 feet tall. The height h (in feet) of the shorter tree can be modeled by $h = 2t + 6$ where t is the time (in years) since you planted the tree. The height of the taller tree can be modeled by $h = 2t + 8$. *(p. 244)*

  a. Graph both equations in the same coordinate plane.

  b. Use the graphs to find the difference of the heights of the trees 5 years after you plant them. What is the difference after 10 years? What do you notice about the difference of the heights of the two trees?