Name _____

6-7A Lesson Master

SKILLS Objective C

1. Tell whether each of the following equations is in the correct form to solve using the quadratic formula.

   a. $2x^2 + 3x + 5 = 1$ b. $3x^2 + 5x + 2 = 0$ c. $x^2 - 5 = 3x + 5$

   _____   _____   _____

In 2–5, solve the equation.

2. $3x^2 + 11x - 4 = 0$ _____   3. $n^2 + 10n = 2n - 15$ _____

4. $a^2 + 5 = 5a$ _____   5. $4t^2 - 12t + 9 = 0$ _____

6. Use the quadratic formula to find the intersections of the graphs of $y = 4x^2 + 2x + 5$ and $y = 3x + 8$.

   _____

7. As a first step in solving an equation, Alfonso wrote

   $x = \dfrac{-(-5) \pm \sqrt{(-5)^2 - 4(3)(1)}}{2(3)}$. What equation was Alfonso solving?   _____

USES Objective I

8. The number of toothpicks required to make a square grid with a side n is $2n^2 + 2n$. Suzanne claims to have made a grid using 500 toothpicks. Is this possible? If so, how long is each side? If not, explain how you know.

   $n = 3$

   24 toothpicks

   _____
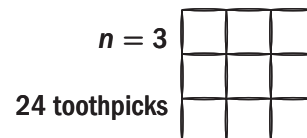
9. Angela shoots a free throw. The ball leaves her hand at an initial height of 6 feet with an initial upward velocity of $23\ \frac{\text{ft}}{\text{sec}}$.

   a. Give an equation for the height h of the ball after t seconds.   _____

   b. The basket is exactly ten feet high. After how many seconds does the ball swish through the net to win the game?   _____