GUIDED PRACTICE for Example 3

4. WHAT IF? In Example 3, find the year when 4750 films were produced.

CONCEPT SUMMARY *For Your Notebook*

Methods for Solving Quadratic Equations

Method	Lesson(s)	When to Use
Factoring	9.4–9.8	Use when a quadratic equation can be factored easily.
Graphing	10.3	Use when approximate solutions are adequate.
Finding square roots	10.4	Use when solving an equation that can be written in the form $x^2 = d$.
Completing the square	10.5	Can be used for *any* quadratic equation $ax^2 + bx + c = 0$ but is simplest to apply when $a = 1$ and b is an even number.
Quadratic formula	10.6	Can be used for *any* quadratic equation.

EXAMPLE 4 Choose a solution method

Tell what method you would use to solve the quadratic equation. *Explain* your choice(s).

a. $10x^2 - 7 = 0$ **b.** $x^2 + 4x = 0$ **c.** $5x^2 + 9x - 4 = 0$

Solution

a. The quadratic equation can be solved using square roots because the equation can be written in the form $x^2 = d$.

b. The equation can be solved by factoring because the expression $x^2 + 4x$ can be factored easily. Also, the equation can be solved by completing the square because the equation is of the form $ax^2 + bx + c = 0$ where $a = 1$ and b is an even number.

c. The quadratic equation cannot be factored easily, and completing the square will result in many fractions. So, the equation can be solved using the quadratic formula.

GUIDED PRACTICE for Example 4

Tell what method you would use to solve the quadratic equation. *Explain* your choice(s).

5. $x^2 + x - 6 = 0$ **6.** $x^2 - 9 = 0$ **7.** $x^2 + 6x = 5$