3.R.9 Exercises

Concept Check

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. All radical equations will have two solutions.

2. If no true statements result when all possible solutions are checked, then there is no solution.

3. When solving equations with radicals, you should only have to raise both sides of the equation to a power one time.

4. A radical expression set equal to a negative value, such as $\sqrt{x+2} = -4,$ has no real solution.

Practice

Solve the following equations. Be sure to check your answers in the original equation.

5. $\sqrt{8x+1} = 5$

6. $5 + \sqrt{x+5} - 2x = 0$

7. $\sqrt{2x-5} = \sqrt{3x-9}$

8. $\sqrt{x} + \sqrt{x-3} = 3$

Applications

Solve.

9. ***Landscaping:*** A landscaper is designing a pond in the shape of a right triangle that has a square flower patch along each edge. She knows two of the flower patches will have side lengths of 5 ft and 13 ft and that the remaining flower patch must have a side length a which satisfies the equation $13 = \sqrt{a^2 + 5^2}$. What is the side length of the remaining flower patch?