

EXTRA PRACTICE — Exercises

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Unit VII – Relations of Rational Number Degree

Part C – Solving Radical Equations

Lesson 1 – Equations with One Radical Expression

Solve each of the following equations by isolating the radical and applying the principle of powers. Be sure to check your apparent solutions for extraneous roots, and then show the solution set.

1. $y + \sqrt{y-2} = 4$

2. $\sqrt{x+7} - x = 1$

3. $\sqrt{x-3} = x-5$

4. $x\sqrt{x} = 8$

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

6. $\sqrt{x^2+9} = x+1$

7. $3\sqrt{x+1} = x+3$

8. $-5 = x - \sqrt{3x+13}$

9. $\sqrt{x^2 - x + 5} = 5$

10. $x - \sqrt{2x+1} = 7$

EXTRA PRACTICE — Answer Key

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Solve each of the following equations by isolating the radical and applying the principle of powers. Be sure to check your apparent solutions for extraneous roots, and then show the solution set.

1. $S = \{3\}$

2. $S = \{2\}$

3. $S = \{7\}$

4. $S = \{4\}$
only one real number solution

5. $S = \{2\}$

6. $S = \{4\}$

7. $S = \{0, 3\}$

8. $S = \{-3, -4\}$

9. $S = \{5, -4\}$

10. $S = \{12\}$