

Additional Exercises 9.1**Form I**

Solving Quadratic Equations by the Square Root Property

Solve the quadratic equation by the square root property. If possible, simplify radicals or rationalize denominators.

1. $x^2 = 49$ 1. _____

2. $x^2 = 81$ 2. _____

3. $x^2 = 11$ 3. _____

4. $x^2 = 20$ 4. _____

5. $(x + 8)^2 = 16$ 5. _____

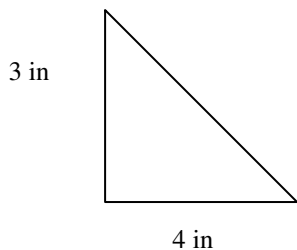
Solve the quadratic equation by first factoring the perfect square trinomial on the left side. Then apply the square root property. If possible, simplify radicals or rationalize denominators.

6. $x^2 + 4x + 4 = 9$ 6. _____

7. $x^2 - 6x + 9 = 25$ 7. _____

Use the Pythagorean Theorem to find the missing length in the right triangle. Express the answer in radical form, and simplify, if possible.

8. _____



Name _____ Date _____

Find the distance between each pair of points. Express answers in simplified radical form.

9. (1, 2) (5, 7) 9. _____

10. (3, 4) (-6, 1) 10. _____

11. (2, 8) (-1, 5) 11. _____

12. (3, 4) (-5, 0) 12. _____

13. (8, 4) (-6, 3) 13. _____

Solve each problem.

14. The formula $F = 0.02x^2 + 23$ models the percentage of female tenured faculty, F , at State University x years after 2000. According to the formula, in what year will the percentage of female tenured faculty reach 30.22? 14. _____

15. The area of a circle is found by the equation $A = \pi r^2$. If the area A of a certain circle is 25π square centimeters, find its radius r . 15. _____

Additional Exercises 9.1**Form II**

Solving Quadratic Equations by the Square Root Property

Solve the quadratic equation by the square root property. If possible, simplify radicals or rationalize denominators.

1. $x^2 = 36$ 1. _____

2. $2x^2 = 14$ 2. _____

3. $7x^2 = 100$ 3. _____

4. $(x - 3)^2 = 36$ 4. _____

5. $(x + 5)^2 = 40$ 5. _____

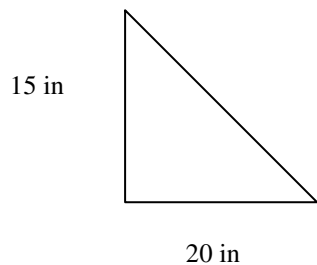
Solve the quadratic equation by first factoring the perfect square trinomial on the left side. Then apply the square root property. If possible, simplify radicals or rationalize denominators.

6. $x^2 + 20x + 100 = 19$ 6. _____

7. $x^2 + 10x + 25 = 7$ 7. _____

Use the Pythagorean Theorem to find the missing length in the right triangle. Express the answer in radical form, and simplify, if possible.

8. _____



Name _____ Date _____

Find the distance between each pair of points. Express answers in simplified radical form.

9. $(2, 5)$ $(1, 4)$ 9. _____

10. $(-2, 6)$ $(-1, 3)$ 10. _____

11. $(0, 8)$ $(3, -5)$ 11. _____

12. $(1, 1)$ $(-6, 4)$ 12. _____

13. $(2, 2)$ $(5, 7)$ 13. _____

Solve each problem.

14. Neglecting air resistance, the distance d , in feet, that an object falls in t seconds is given by the equation $d = 16t^2$. If a window washer drops her bucket from the roof of a 256-foot building, how long will it take the bucket to hit the ground? 14. _____

15. A square sheet of paper measures 48 centimeters on each side. What is the length of the diagonal of this paper? 15. _____

Additional Exercises 9.1**Form III**

Solving Quadratic Equations by the Square Root Property

Solve the quadratic equation by the square root property. If possible, simplify radicals or rationalize denominators.

1. $y^2 = 23$

1. _____

2. $2x^2 - 4 = 50$

2. _____

3. $7x^2 = 5$

3. _____

4. $(2m - 1)^2 = 25$

4. _____

5. $(5x + 4)^2 = 10$

5. _____

Solve the quadratic equation by first factoring the perfect square trinomial on the left side. Then apply the square root property. If possible, simplify radicals or rationalize denominators.

6. $x^2 - 6x + 9 = 6$

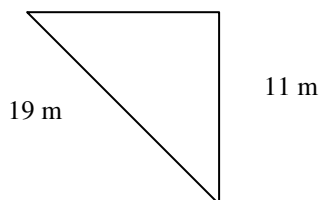
6. _____

7. $x^2 - x + \frac{1}{4} = 2$

7. _____

Use the Pythagorean Theorem to find the missing length in the right triangle. Express the answer in radical form, and simplify, if possible.

8.



8. _____

Name _____

Date _____

Find the distance between each pair of points. Express answers in simplified radical form.

9. $(1, 6)$ $(-3, 2)$

9. _____

10. $(2, 4)$ $(-6, 0)$

10. _____

11. $(3, 5)$ $(-2, -7)$

11. _____

12. $(1, -8)$ $(3, -6)$

12. _____

13. $(-4, 3)$ $(2, 5)$

13. _____

Solve each problem.

14. A ladder that is 10 feet long is 6 feet from the base of a wall. How far up the wall does the ladder reach?

14. _____

15. A machine produces open boxes using square sheets of plastic. The machine cuts equal-sized squares measuring 2 inches on a side from each corner of the sheet, and then shapes the plastic into an open box by turning up the sides. If each box must have a volume of 242 cubic inches, find the length of one side of the open box.

15. _____