

**9.3****Practice A**

In Exercises 1–3, determine the number of real solutions of the equation. Then solve the equation using square roots.

1.  $x^2 = 36$

2.  $x^2 = -16$

3.  $x^2 = 0$

In Exercises 4–12, solve the equation using square roots.

4.  $x^2 - 9 = 0$

5.  $x^2 + 8 = 0$

6.  $2x^2 + 10 = 0$

7.  $x^2 - 24 = 40$

8.  $2x^2 - 72 = 0$

9.  $-x^2 + 25 = 25$

10.  $(x - 4)^2 = 0$

11.  $(x + 2)^2 = 9$

12.  $(3x + 1)^2 = 49$

In Exercises 13–15, solve the equation using square roots. Round your solutions to the nearest hundredth.

13.  $x^2 + 5 = 11$

14.  $x^2 - 8 = 10$

15.  $3x^2 - 1 = 14$

16. Describe and correct the error in solving the equation  $x^2 - 9 = 16$  using square roots.

$\times$	$x^2 - 9 = 16$
	$x - 3 = 4$
	$x = 7$

17. A rectangular box has a height of 7 centimeters and a volume of 336 cubic centimeters. The length of the box is three times the width.
- Write an equation describing this situation.
  - Find the length and width of the box.
18. Without graphing, where do the graphs of  $y = x^2$  and  $y = 25$  intersect? Explain.
19. Without graphing, where do the graphs of  $y = x^2$  and  $y = 1.21$  intersect? Explain.

**9.3 Practice B**

In Exercises 1–3, determine the number of real solutions of the equation. Then solve the equation using square roots.

1.  $x^2 = 121$

2.  $x^2 = -15$

3.  $x^2 = 196$

In Exercises 4–12, solve the equation using square roots.

4.  $x^2 + 9 = 0$

5.  $4x^2 - 16 = 0$

6.  $-2x^2 + 10 = 10$

7.  $5x^2 - 21 = 24$

8.  $9x^2 + 7 = 8$

9.  $4x^2 - 38 = 43$

10.  $(x + 5)^2 = 49$

11.  $(4x - 3)^2 = 25$

12.  $25(x - 1)^2 = 49$

In Exercises 13–15, solve the equation using square roots. Round your solutions to the nearest hundredth.

13.  $2x^2 + 7 = 21$

14.  $-16 = 8 - 3x^2$

15.  $5 = 9x^2 - 6$

16. Describe and correct the error in solving the equation  $x^2 + 25 = 9$  using square roots.

$\times$	$x^2 + 25 = 9$
	$x^2 = -16$
	$x = \pm 4$

17. A can of juice has a height of 10 inches and a volume of  $160\pi$  cubic inches.

The volume of a can with radius  $r$  is given by the formula  $V = \pi r^2 h$ .

a. Write an equation describing this situation, where  $r$  is the radius of the can.

b. Find the radius of the can.

18. Solve each equation without graphing.

a.  $x^2 + 6x + 9 = 25$

b.  $x^2 - 10x + 25 = 49$

c.  $x^2 - 1 = 24$