

TEKS A.10.A



LESSON

9-7

Practice B

Solving Quadratic Equations by Using Square Roots

Solve using square roots. Check your answer.

1. $x^2 = 81$

$x = \pm\sqrt{81}$

$x = \pm$ _____

The solutions are _____ and _____.

2. $x^2 = 100$

$x = \pm \sqrt{\quad}$

$x = \pm$ _____

The solutions are _____ and _____.

3. $x^2 = 225$

$x = \pm\sqrt{\quad}$

$x =$ _____

4. $441 = x^2$

$\pm\sqrt{\quad} = x$

_____ = x

5. $x^2 = -400$

6. $3x^2 = 108$

7. $100 = 4x^2$

8. $x^2 + 7 = 71$

9. $49x^2 - 64 = 0$

10. $-2x^2 = -162$

11. $9x^2 + 100 = 0$

12. $0 = 81x^2 - 121$

13. $100x^2 = 25$

14. $100x^2 = 121$

Solve. Round to the nearest hundredth.

15. $8x^2 = 56$

16. $5 - x^2 = 20$

17. $x^2 + 35 = 105$

18. The height of a skydiver jumping out of an airplane is given by $h = -16t^2 + 3200$. How long will it take the skydiver to reach the ground? Round to the nearest tenth of a second.

19. The height of a triangle is twice the length of its base. The area of the triangle is 50 m^2 . Find the height and base to the nearest tenth of a meter.

20. The height of an acorn falling out of a tree is given by $h = -16t^2 + b$. If an acorn takes 1 second to fall to the ground. What is the value of b ?

LESSON **Practice C**
9-7 *Solving Quadratic Equations by Using Square Roots*

Solve using square roots.

1. $x^2 = 81$

2. $49 = x^2$

3. $x^2 = -36$

4. $x^2 = 225$

5. $144 = x^2$

6. $-x^2 = -169$

7. $-49 = x^2$

8. $2x^2 = 72$

9. $10x^2 - 1000 = 0$

10. $x^2 - 121 = 0$

11. $2x^2 - 10 = 22$

12. $15x^2 + 60 = -15$

13. $-9x^2 = -144$

14. $0 = 8x^2 - 72$

15. $250 - 9x^2 = 25$

Solve. Round to the nearest hundredth.

16. $8x^2 = 40$

17. $0 = x^2 + 76$

18. $114 - 3x^2 = 0$

19. $5x^2 - 175 = 450$

20. $-3 = 14 - x^2$

21. $8.2x^2 - 24.6 = 0$

22. The area of a square is 40 in^2 . If the length of each side of the square is $2x \text{ in.}$, what is the value of x ?

23. A room is shaped like a trapezoid. There are windows on the walls that are parallel. The distance between the windows is x . The length of one windowed wall is 3 less than the x , and the length of the other windowed wall is 3 more than x . The area of the room is 354 ft^2 . Find the distance between the windows to the nearest tenth of a foot.

24. A square with side length a , and a triangle whose base and height both have length b , have the same area. Write an equation for b in terms of a .

**Practice B** CW
Completing the Square

Complete the square to form a perfect square trinomial.

1. $x^2 + 4x + \square$

2. $x^2 - 16x + \square$

3. $x^2 + 7x + \square$

Solve each equation by completing the square.

4. $x^2 + 6x = -8$

5. $x^2 + 4x = 12$

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

7. $x^2 - 8x + 13 = 0$

8. $x^2 + 6x + 34 = 0$

9. $x^2 - 2x - 35 = 0$

10. $2x^2 + 16x + 42 = 0$

11. $4x^2 - 7x - 2 = 0$

12. $2x^2 + 9x + 4 = 0$

13. A rectangular pool has an area of 880 ft^2 . The length is 10 feet longer than the width. Find the dimensions of the pool. Solve by completing the square. Round answers to the nearest tenth of a foot.

14. A small painting has an area of 400 cm^2 . The length is 4 more than 2 times the width. Find the dimensions of the painting. Solve by completing the square. Round answers to the nearest tenth of a centimeter.

LESSON
9-8

Practice C *HW*
Completing the Square

Complete the square to form a perfect square trinomial.

1. $x^2 + 50x$

2. $x^2 + 34x$

3. $x^2 + 80x$

Solve each equation by completing the square.

4. $x^2 - 2x = 80$

5. $x^2 - 7x = 18$

6. $x^2 - 3x = 28$

7. $x^2 + 10x + 35 = 0$

8. $x^2 + 8x + 11 = 0$

9. $x^2 + 2x - 6 = 0$

10. $2x^2 + 4x - 70 = 0$

11. $2x^2 + 9x + 4 = 0$

12. $3x^2 + 20x + 12 = 0$

13. A rectangular garden has an area of 432 ft^2 . The length is 2 more than 3 times the width. Find the dimensions of the garden. Solve by completing the square. Round your answer to the nearest tenth of a foot.

14. The height h in feet of a rocket launched off a roof is given by the equation $h = -16t^2 + 288t + 32$, where t is the time in seconds. After the rocket is launched, how long will it take to return to the ground? Solve by completing the square. Round your answer to the nearest tenth of a second.
