

Algebra I

Review 2.1 - 2.3

Name _____

Evaluate the expression.

1. $\pm\sqrt{81}$

2. $\pm\sqrt{25}$

3. $-\sqrt{400}$

4. $\sqrt{625}$

5. $\sqrt{4900}$

6. $\pm\sqrt{169}$

Approximate the square root to the nearest integer.

7. $-\sqrt{29}$

8. $\sqrt{108}$

9. $-\sqrt{53}$

10. $\sqrt{138}$

11. $-\sqrt{55}$

12. $\sqrt{640}$

Tell whether each number in the list is a real number, a rational number, an irrational number, an integer, or a whole number. Then order the numbers from least to greatest.

13. $-\sqrt{16}, 3.2, -\frac{3}{2}, \sqrt{9}$

14. $\sqrt{5}, -6, 2.5, -\frac{24}{5}$

Evaluate the expression for the given value of x .

15. $14 + \sqrt{x}$ when $x = 16$

16. $\sqrt{x} - 5.5$ when $x = 4$

17. $-9 \cdot \sqrt{x}$ when $x = 25$

18. $2\sqrt{x} - 1$ when $x = 100$

19. Park A local park is in the shape of a square and covers an area of 3600 square feet. Find the side length of the park.

20. Wall Poster You are considering buying a square wall poster that has an area of 6.25 square feet. Find the side length of the wall poster.

21. Road Sign The U.S. Department of Transportation determines the sizes of the traffic control signs that you see along the roadways. The square Pennsylvania state route sign at the right has an area of 1296 square inches. Find the side length of the sign.



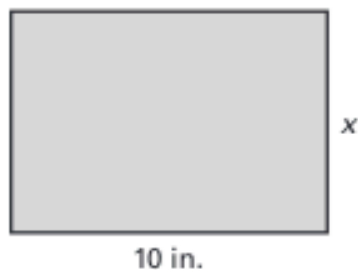
LESSON
2.2

Solve the equation.

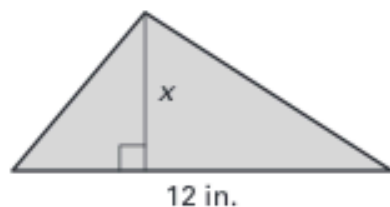
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|--------------------|-------------------------|--------------------------|
| 1. $x + 16 = 25$ | 2. $n - 9 = 17$ | 3. $-30 = w + 8$ |
| 4. $y + 5 = -13$ | 5. $a - 17 = -10$ | 6. $41 = 52 + m$ |
| 7. $c - 2.4 = 1.8$ | 8. $z + 4.1 = 9.6$ | 9. $-3.2 = 4.5 + p$ |
| 10. $9x = 54$ | 11. $-5b = 55$ | 12. $-42 = 3m$ |
| 13. $-52 = -4y$ | 14. $\frac{1}{3}n = 36$ | 15. $-\frac{3}{4}a = 12$ |
| 16. $0.5y = 17$ | 17. $-1.4a = 2.8$ | 18. $-6.5 = -1.3m$ |

The rectangle or triangle has area A . Write and solve an equation to find the value of x .

19. $A = 70 \text{ in.}^2$



20. $A = 30 \text{ in.}^2$



21. **Caves** Cumberland Caverns in Tennessee is 44.4 kilometers long. This cave is 10.9 kilometers longer than Carlsbad Caverns in New Mexico. How long is Carlsbad Caverns?
22. **Bocce** Bocce is a lawn bowling game that originated in Italy. The bocce court below has an area of 1032 square feet. The width of the court is 12 feet. What is the length of the court?



23. **Speedskating** In the 2002 Winter Olympics, Cartriona LeMay Doan won the 500-meter race. Her winning time was 74.75 seconds. Find her average speed to the nearest tenth of a meter per second.

Solve the equation.

1. $3n + 14 = 35$

2. $7y - 10 = 11$

3. $14 = 9 - x$

4. $9c - 5 = 13$

5. $4.6 = 4m - 3.4$

6. $1.2 = 2.4 - 3b$

7. $\frac{p}{6} + 9 = 14$

8. $\frac{w}{7} - 2 = 9$

9. $\frac{z}{3} - 8 = -4$

Write an equation for the function described. Then find the input.

10. The output of a function is 5 more than 2 times the input. Find the input when the output is 17.
11. The output of a function is 10 more than 4 times the input. Find the input when the output is -26 .
12. The output of a function is 14 less than 6 times the input. Find the input when the output is 22.

Solve the equation.

13. $9a + 4a = 26$

14. $14y - 6y = 48$

15. $38 = 26x - 7x$

16. $16x - 3x = -52$

17. $-9 = 11m - 8m$

18. $4.5z - 2.5z = 24$

19. **Yoga Class** A fitness center offers yoga classes for \$10 per class and sells yoga mats for \$19.95. A person paid a total of \$139.95 to the fitness center for yoga classes and a mat. Find the number of yoga classes the person took.
20. **Library Books** Your school has a \$1200 grant to buy books and magazine subscriptions for the school library. The average cost of a magazine subscription is \$30. Your school decides to spend \$870 on books and the remaining amount on magazine subscriptions. How many magazine subscriptions can the school buy?
21. **Walking** You have already walked 5 miles of an 18-mile trail. If you walk the rest of the trail at a pace of 1 mile in 17 minutes, how many hours will it take you to finish the trail? Use the following verbal model to answer the question. Round your answer to the nearest tenth.

Walking rate (mi/min)	•	Number of minutes(min)	+	Number of miles already walked (mi)	=	Total number of miles walked (mi)
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