

## Solve Quadratic Word Problems with Factoring

1. The product of two consecutive integers is 272. What are the numbers?
2. The product of two consecutive even integers is 528. What are the numbers?
3. A rectangular swimming pool is twice as long as it is wide. A small concrete walkway surrounds the pool. The walkway is a constant 2 feet wide and has an area of 196 square feet. Find the dimensions of the pool.
4. The height of a triangle is 2 mm less than the base. If the area is  $60 \text{ mm}^2$ , find the height and base of the triangle.
5. The product of two consecutive integers is 210. Find the integers
6. The sum of a number and its square is 156. Find the numbers
7. The length of a rectangle is 4 ft more than twice the width. The area of the rectangle is  $48 \text{ ft}^2$ . Find the length and the width of the rectangle.
8. The width of a rectangle is 7 cm less than twice its length. Its area is 30 square centimeters. Find the dimensions of the rectangle.
9. Four times the square of a number equals 20 times that number. What is the number?
10. The area of a square is equal to five times its perimeter. Find the length of one side of the square.

## Solve Quadratic Word Problems with Factoring

11. The area of a rectangle is twice the area of a square. If the rectangle is 6 inches long, and the width of that rectangle is the same as the length of a side of the square, find the dimensions of both the rectangle and the square.
12. The width of a rectangle is three-fourths the length. If the area of the rectangle is 108 square meters, find the dimensions of the rectangle.
13. Find two consecutive positive integers such that the square of the first increased by 2 times the second is equal to 37.
14. A vacant rectangular lot is being turned into a community vegetable garden measuring 15 meters by 12 meters. A path of uniform width is to surround the garden. If the area of the lot is 378 square meters, find the width of the path surrounding the garden.
15. The length of a rectangular garden is 5 feet greater than the width. The area of the rectangle is 300 square feet. Find the dimensions.
16. You are creating a rectangular banner for a school pep rally. You have 100 ft<sup>2</sup> of paper, and you want the length to be 15 ft longer than the width. What should be the dimensions of the banner?
17. You are building a rectangular deck. The area of the deck should be 250 ft<sup>2</sup>. You want the length of the deck to be 5 ft longer than twice its width. What should the dimensions of the deck be?