

## Lesson 3: Prime and Composite Numbers

- Let's identify prime and composite numbers.



### 3.2: Prime or Composite?

The table shows different areas. How many rectangles can be made for each area?

Complete the table and be prepared to explain or show your reasoning.

Rectangles with the same pair of side lengths should be counted only once. For example, if you count a rectangle with 4 units across and 6 units down, you don't need to also count a rectangle with 6 units across and 4 units down.

area	how many rectangles?	prime or composite?
2 square units		
10 square units		
48 square units		
11 square units		
21 square units		
23 square units		
60 square units		
32 square units		
42 square units		
31 square units		
56 square units		

## Section Summary

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In this section, we used our understanding of the area of rectangles to learn about factors, multiples, factor pairs, prime numbers, and composite numbers.

If we know the side length of a rectangle, we can find the areas that the rectangle could have. For instance, a rectangle with a side length of 3 could have an area of 3, 6, 9, 12, 15, or other numbers that result from multiplying of a whole number and 3. We call these numbers **multiples** of 3.

If we know the area of a rectangle, we can find the side lengths that it could have. For example, a rectangle with an area of 24 square units can have side lengths of 1 and 24, 2 and 12, 3 and 8, or 4 and 6. We call these possible pairs of side lengths the **factor pairs** of 24.



We also learned that a number that has only one factor pair—1 and the number itself—is called a **prime number**. For instance, 5 is prime because its only factor pair is 1 and 5.

A number that has two or more factor pairs is a **composite number**. For instance, 15 is composite because its factor pairs are 1 and 15, and 3 and 5.