

# Grade:IV Factors

Factors of a number are discussed here so that students can understand the factors of the product.

What are factors?

We know that the product of 3 and 5 is 15.

3 × 5 = 15. Here, 3 and 5 which exactly divide the number 15.

15 ÷ 3 = 5, 15 ÷ 5 = 3. So, 3 and 5 are called the factors of 15.

**Consider another example.**

1 × 15 = 15.

1 and 15 also divide 15 exactly. (15 ÷ 1 = 15, 15 ÷ 15 = 1)

So, 1 and 15 are also the factors of 15.

Similarly, 7 × 5 = 35 here, 7 and 5 are the factors of 35.

4 × 8 = 32 here, 4 and 8 are the factors of 32.

We can find several other factors of 32 like, 2 × 16 = 32, 1 × 32 = 32

So, 1, 2, 4, 8, 16 and 32 are the factors of 32. Since they all divide 32 exactly.

**When a number divides the other number exactly, the former is called the factor of the later.**

We can define factor in the following way also.

When a divisor divides the dividend exactly, the divisor is called a factor of the dividend.

We can find the factors of a number as follows.

**Find the factors of 24.**

24 = 1 × 24

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Thus, the factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24.

Remember,

(i) If a dividend, when divided by a divisor, is divided completely then we name the divisor as the factor of the dividend or multiple.

(ii) If two or more numbers are multiplied to get the product, then each of the numbers is known as a factor of the product.

(iii) A number can be formed by multiplying two or more numbers together. The numbers that are multiplied together are called the factors of the number.

(iv) In all the numbers we have a common factor that is 1 since, 1 multiplied by any number the result is always that number. If any number is divided by that same number then we get the result as 1.

**Common Factors**

To find the common factors of two or more numbers we will first make a list of the factors of each number.
How to find the common factors of 12 and 18?

|  |  |
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| Factor of 121 × 12 = 122 × 6 = 123 × 4 = 12 | Factors of 181 × 18 = 182 × 9 = 183 × 6 = 18 |

Common factors of 12 and 18 are 1, 2, 3 and 6.

How to find the common factors of 6, 8, 10?

**Factor of 6**      **Factor of 8**      **Factor of 10**
  1 × 6 = 6         1 × 8 = 8        1 × 10 = 10
  2 × 3 = 6         2 × 4 = 8        2 × 5 = 10

Common factors of 6, 8 and 10 are 1 and 2.