

Divisibility Rules

By Janine Bouyssounouse

The divisibility rules make math easier. Did you ever wonder how people could tell if something was divisible by a number just by looking at it? These rules are how they do it. Memorize a few simple rules and simplifying fractions and prime factorization will be so much easier.

| Number | Divisibility Rule | Example |
|-----------|--|--|
| Two (2) | A number is divisible by two if it is even . Another way to say a word is even is to say it ends in 0, 2, 4, 6 or 8. | 642 is divisible by two because it ends in a two, which makes it an even number |
| Three (3) | A number is divisible by three if the sum of the digits adds up to a multiple of three . | 423 is divisible by three because $4 + 2 + 3 = 9$. Since nine is a multiple of three (or is divisible by three), then 423 is divisible by three |
| Four (4) | A number is divisible by four if it is even and can be divided by two twice . | 128 is divisible by four because half of it is 64 and 64 is still divisible by two |
| Five (5) | A number is divisible by five if it ends in a five or a zero . | 435 is divisible by five because it ends in a five |
| Six (6) | A number is divisible by six if it is divisible by both two and three . | 222 is divisible by six because it is even, so it is divisible by two and its digits add up to six, which makes it divisible by three |
| Nine (9) | A number is divisible by nine if the sum of the digits adds up to a multiple of nine . This rule is similar to the divisibility rule for three. | 9243 is divisible by nine because the sum of the digits adds up to eighteen, which is a multiple of nine |
| Ten (10) | A number is divisible by ten if it ends in a zero . This rule is similar to the divisibility rule for five. | 730 is divisible by ten because it ends in zero |

Divisibility Rules Practice Problems

Use the divisibility rules to circle the answers.

| Number | Divisible By: | | | | | | |
|-------------|---------------|---|---|----------|---|---|-----------|
| Example: 10 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 15 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 27 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 36 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 16 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 28 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 57 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 102 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 268 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 4518 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 93 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 144 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 256 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 75 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 450 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 70 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |

Divisibility Rules Practice Problem Answers

| Number | Divisible By: | | | | | | |
|-------------|---------------|----------|----------|----------|----------|----------|-----------|
| Example: 10 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 15 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 27 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
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| 16 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 28 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 57 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 102 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 268 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 4518 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 93 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 144 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 256 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 75 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 450 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |
| 70 | 2 | 3 | 4 | 5 | 6 | 9 | 10 |