

# Divisibility Rules

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*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 <b>even</b> . 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 <b>sum of the digits adds up to a multiple of three</b> .	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 <b>can be divided by two twice</b> .	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 <b>ends in a five or a zero</b> .	435 is divisible by five because it ends in a five
Six (6)	A number is divisible by six if it is <b>divisible by both two and three</b> .	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 <b>sum of the digits adds up to a multiple of nine</b> . 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 <b>ends in a zero</b> . 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	<b>2</b>	3	4	<b>5</b>	6	9	<b>10</b>
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	<b>2</b>	3	4	<b>5</b>	6	9	<b>10</b>
15	2	<b>3</b>	4	<b>5</b>	6	9	10
27	2	<b>3</b>	4	5	6	<b>9</b>	10
36	<b>2</b>	<b>3</b>	<b>4</b>	5	<b>6</b>	<b>9</b>	10
16	<b>2</b>	3	<b>4</b>	5	6	9	10
28	<b>2</b>	3	<b>4</b>	5	6	9	10
57	2	<b>3</b>	4	5	6	9	10
102	<b>2</b>	<b>3</b>	4	5	<b>6</b>	9	10
268	<b>2</b>	3	<b>4</b>	5	6	9	10
4518	<b>2</b>	<b>3</b>	4	5	<b>6</b>	<b>9</b>	10
93	2	<b>3</b>	4	5	6	9	10
144	<b>2</b>	<b>3</b>	<b>4</b>	5	<b>6</b>	<b>9</b>	10
256	<b>2</b>	3	<b>4</b>	5	6	9	10
75	2	<b>3</b>	4	<b>5</b>	6	9	10
450	<b>2</b>	<b>3</b>	4	<b>5</b>	<b>6</b>	<b>9</b>	<b>10</b>
70	<b>2</b>	3	4	<b>5</b>	6	9	<b>10</b>