

Divisibility Rules up to 15

If a number a can be divided by another number b exactly (without leaving a remainder), then a is divisible by b .

In other words: b is divisible by a if a multiplies into it exactly.

Divisible by...	If...	Example
2	The number is even.	56,478 The last digit is even, so the number is even.
3	The sum of its digits is divisible by 3.	245,511 $2+4+5+5+1+1=18$ And $18=6 \cdot 3 \leftarrow$ Divisible by 3!
4	The last 2 digits are divisible by 4. OR It is even after being halved.	5932 $32=9 \cdot 4 \leftarrow$ Divisible by 4! $5932 \div 2=2966 \leftarrow$ Even after $\div 2$
5	The last digit is 5 or 0.	68,995 \leftarrow Divisible by 5! 5,687 \leftarrow Not divisible by 5. 8,960 \leftarrow Divisible by 5!
6	It is divisible by both 2 and 3 (use above tests).	1,116 Last digit is even $1+1+1+6=9 \leftarrow$ Divisible by 3!
7	This is divisible by 7: Double the last digit, take it away from the rest of the number. Repeat until the number is smaller than 70.	1,715 $171-5 \cdot 2=161$ $16-1 \cdot 2=14 \leftarrow$ Divisible by 7!
8	The last 3 digits are divisible by 8, or by 4 after being halved. Whichever you find easiest.	47,168 $168 \div 2=84$ Do 4's divisibility test.
9	The sum of the digits is divisible by 9.	599,256 $5+9+9+2+5+6=36$ $36=4 \cdot 9 \leftarrow$ Divisible by 9!
10	The last digit is 0.	1,236,590 \leftarrow Divisible by 10!
11	The following is divisible by 11: Starting from the left, subtract then add alternating digits.	135,916 $4-3+5-9+1-9=-11$ $-11=-1 \cdot 11 \leftarrow$ Divisible by 11!
12	It is divisible by both 3 and 4.	924 $9+2+4=15 \leftarrow$ Divisible by 3! $24=6 \cdot 4 \leftarrow$ Divisible by 4!
13	The following is divisible by 13: Take the last digit off, times it by 4, and add it to the remaining number. Repeat.	2,028 $202+8 \cdot 4=234$ $23+4 \cdot 4=39 \leftarrow$ Divisible by 13!
14	It is divisible by 7 and even.	3,668 \leftarrow Even $366-8 \cdot 2=350$ $35-0 \cdot 2=35 \leftarrow$ Divisible by 7!
15	It is divisible by both 5 and 3.	9,885 Last digit is 5 \leftarrow Divisible by 5! $9+8+8+5=30 \leftarrow$ Divisible by 3!