

Divisibility Rules up to 12

n	A number is divisible by n if
2	it is even (ends in 0, 2, 4, 6, or 8).
3	the sum of the digits is divisible by 3.
4	the last two digits can be divided by 2 twice.
5	it ends in either 0 or 5.
6	it is even and divisible by 3.
7	the result from doubling the last digit and subtracting it from the remaining digits is divisible by 7.
8	the last 3 digits can be divided by 2 three times.
9	the sum of the digits is divisible by 9.
10	it ends in 0.
11	the results from adding and subtracting alternating digits is divisible by 11.
12	it is divisible by 3 and divisible by 4.

Divisibility Rules Examples

n	Examples
2	$15\bar{6}$ ✓ $15\bar{7}$ ✗
3	$471 = 4 + 7 + 1 = 12, 12 \div 3 = 4$ ✓ $472 = 4 + 7 + 2 = 13, 13 \div 3 = 4 \text{ R}1$ ✗
4	$116 = 16 \div 2 = 8, 8 \div 2 = 4$ ✓ $118 = 18 \div 2 = 9, 9 \div 2 = 4 \text{ R}1$ ✗
5	$34\bar{5}$ ✓ $45\bar{6}$ ✗
6	$13\bar{8}$ and $138 = 1 + 3 + 8 = 12, 12 \div 3 = 4$ ✓ $14\bar{6}$ and $146 = 1 + 4 + 6 = 11, 11 \div 3 = 3 \text{ R}2$ ✗
7	$693 = 69 - (3 \cdot 2) = 63, 63 \div 7 = 9$ ✓ $653 = 65 - (3 \cdot 2) = 59, 59 \div 7 = 8 \text{ R}3$ ✗
8	$1160 = 160 \div 2 = 80, 80 \div 2 = 40, 40 \div 2 = 20$ ✓ $1162 = 162 \div 2 = 81, 81 \div 2 = 40 \text{ R}1$ ✗
9	$1548 = 1 + 5 + 4 + 8 = 18, 18 \div 9 = 2$ ✓ $1659 = 1 + 6 + 5 + 9 = 21, 21 \div 9 = 2 \text{ R}3$ ✗
10	$134\bar{0}$ ✓ $432\bar{6}$ ✗
11	$91915 = 9 - 1 + 9 - 1 + 5 = 22, 22 \div 11 = 2$ ✓ $82909 = 8 - 2 + 9 - 0 + 9 = 24, 24 \div 11 = 2 \text{ R}2$ ✗
12	$876 = 8 + 7 + 6 = 21, 21 \div 3 = 7$ and $76 \div 2 = 38 \div 2 = 19$ ✓ $846 = 8 + 4 + 6 = 18, 18 \div 3 = 6$ and $46 \div 2 = 23 \div 2 = 11 \text{ R}1$ ✗