

Mathematics

Divisibility Rules

Interesting info for
teachers and students.

(printable)

The Divisibility Rules

These rules let you test if one number can be evenly divided by another, without having to do too much calculation.

A number is divisible by:	If:	Example:
2	The last digit is even (0,2,4,6,8)	12 8 is 12 9 is not
3	The sum of the digits is divisible by 3	381 (3+8+1=12, and 12÷3 = 4) Yes 217 (2+1+7=10, and 10÷3 = 3 1/3) No
4	The last 2 digits are divisible by 4	13 12 is (12÷4=3) 70 19 is not
5	The last digit is 0 or 5	17 5 is 80 9 is not
6	The number is divisible by both 2 and 3	114 (it is even, and 1+1+4=6 and 6÷3 = 2) Yes 308 (it is even, but 3+0+8=11 and 11÷3 = 3 2/3) No
7	If you double the last digit and subtract it from the rest of the number and <i>the answer is divisible by 7 or 0</i> . (Note: you can apply this rule to that answer again if you want)	672 (Double 2 is 4, 67-4=63, and 63÷7=9) Yes 905 (Double 5 is 10, 90-10=80, and 80÷7=11 3/7) No
8	The last three digits are divisible by 8	109 816 (816÷8=102) Yes 216 302 (302÷8=37 3/4) No
9	The sum of the digits is divisible by 9 (Note: you can apply this rule to that answer again if you want)	1629 (1+6+2+9=18, and again, 1+8=9) Yes 2013 (2+0+1+3=6) No
10	The number ends in 0	22 0 is 22 1 is not
11	If you sum every second digit and then subtract the other digits and the <i>answer is divisible by 11 or 0</i>	7392 ((7+9) - (3+2) = 11) Yes 25176 ((5+7) - (2+1+6) = 3) No
12	The number is divisible by both 3 and 4	648 (6+4+8=18 and 18÷3=6, also 48÷4=12) Yes 916 (9+1+6=16, 16÷3= 5 1/3) No

