

*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:
<b>2</b>	The last digit is even (0,2,4,6,8)	12 <b>8</b> is 12 <b>9</b> is not
<b>3</b>	The sum of the digits is divisible by 3	381 (3+8+1=12, and 12÷3 = 4) <b>Yes</b> 217 (2+1+7=10, and 10÷3 = 3 1/3) <b>No</b>
<b>4</b>	The last 2 digits are divisible by 4	13 <b>12</b> is (12÷4=3) 70 <b>19</b> is not
<b>5</b>	The last digit is 0 or 5	1 <b>75</b> is 8 <b>09</b> is not
<b>6</b>	The number is divisible by both 2 and 3	114 (it is even, and 1+1+4=6 and 6÷3 = 2) <b>Yes</b> 308 (it is even, but 3+0+8=11 and 11÷3 = 3 2/3) <b>No</b>
<b>7</b>	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) <b>Yes</b> 905 (Double 5 is 10, 90-10=80, and 80÷7=11 3/7) <b>No</b>
<b>8</b>	The last three digits are divisible by 8	109 <b>816</b> (816÷8=102) <b>Yes</b> 216 <b>302</b> (302÷8=37 3/4) <b>No</b>
<b>9</b>	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) <b>Yes</b> 2013 (2+0+1+3=6) <b>No</b>
<b>10</b>	The number ends in 0	2 <b>20</b> is 2 <b>21</b> is not
<b>11</b>	If you sum every second digit and then subtract the other digits and the <i>answer is divisible by 11 or 0</i>	<b>7392</b> ((7+9) - (3+2) = 11) <b>Yes</b> <b>25176</b> ((5+7) - (2+1+6) = 3) <b>No</b>
<b>12</b>	The number is divisible by both 3 and 4	648 (6+4+8=18 and 18÷3=6, also 48÷4=12) <b>Yes</b> 916 (9+1+6=16, 16÷3= 5 1/3) <b>No</b>

