

Divisibility Rules

Divisibility by 2

A number is divisible by 2 if its last digit is even or zero.
For instance, 8596746 is divisible by 2 because the last digit is even.

Divisibility by 3:

A number is divisible by 3 if the sum of its digits is divisible by 3
For instance, 3141 is divisible by 3 because $3+1+4+1 = 9$ and 9 is divisible by 3.

Divisibility by 4

A number is divisible by 4 if the number represented by its last two digits is divisible by 4.
For instance, 8920 is divisible by 4 because 20 is divisible by 4.

Divisibility by 5

A number is divisible by 5 if its last digit is 0 or 5.
For instance, 9564655 is divisible by 5 because the last digit is 5.

Divisibility by 6

A number is divisible by 6 if it is divisible by 2 and 3. The number must be divisible by both 2 and 3 before you can conclude that it is divisible by 6.

Divisibility by 7

To check divisibility by 7, remove the last digit, double it and subtract from the remaining number. If the result is divisible by seven, then the original number is divisible by seven.

Example: 343

Remove the last digit, 3. The number becomes 34. Then, double 3 to get 6 and subtract 6 from 34.
 $34 - 6 = 28$ and 28 is divisible by 7. Therefore, 343 is divisible by 7

Note that this can be repeated until you can make a judgement:

Try 39347: $3934 - 2(7) = 3920$
 $392 - 2(0) = 392$
 $39 - 2(2) = 35$

35 is divisible by 7 so 39347 is divisible by 7.

Divisibility by 8

A number is divisible by 8 if the number represented by its last three digits is divisible by 8.
For instance, 587320 is divisible by 8 because 320 is divisible by 8.

Divisibility by 9

A number is divisible by 9 if the sum of its digits is divisible by 9.
For instance, 633141 is divisible by 9 because the sum of its digits is divisible by 9.
 $6 + 3 + 3 + 1 + 4 + 1 = 18$ and 18 is divisible by 9.

Divisibility by 10

A number is divisible by 10 if its last digit is 0
For instance, 522480 is divisible by 10 because the last digit is 0.