

# Divisibility Tests

2

Look at the last digit of the original number. If that digit is even, then the original number is divisible by 2.

3

Add up all the digits in the original number. If the sum is divisible by 3, then the original number is divisible by 3.

Original number = 297  
 $2+9+7=18$  and 18 is divisible by 3.

4

\*Since 4 goes into 20, 40, 60, and 80 evenly, determine how much greater than 20, 40, 60, or 80 the original number is. If that new number is divisible by 4, then the original number is divisible by 4. \*\*For numbers greater than two digits, if the last two digits are divisible by 4, the original number is divisible by 4.

\*Original number = 72  
72 is 12 more than 60, and 12 is divisible by 4.  
\*\*Original number = 1,984  
84 is divisible by 4, therefore 1,984 is divisible by 4.

5

If the last digit of the original number is 0 or 5, then the original number is divisible by 5.

6

If the original number is divisible by both 2 and 3, then it is also divisible by 6.

7

There's not an easy shortcut for this one. Just use short division to check divisibility.

8

\*Look at the last three digits of the original number. If that number is divisible by 8 (use short division to check), then the original number is divisible by 8. \*\*If the number in the hundreds place of the original number is even, you only have to look at the last two digits. If that number is divisible by 8, then the original number is divisible by 8.

\*Original number = 123,336  
336 is divisible by 8, therefore 123,336 is divisible by 8.

\*\*Original number = 123,448  
48 is divisible by 8, therefore 123,448 is divisible by 8.

9

Add up all the digits in the original number. If the sum is divisible by 9, then the original number is divisible by 9.

Original number = 1,935  
 $1+9+3+5=18$ , and 18 is divisible by 9, so 1,935 is divisible by 9.

10

If the last digit of the original number is 0, then the original number is divisible by 10.

NOTE: A simple tutorial on short division can be found at <http://bit.ly/shortdivision>