DIVISIBILITY RULES

How can you tell whether a number is divisible by another number (leaving no remainder) without actually doing the division? Why do "divisibility rules" work?

Divisibility by:

2 If the last digit is even, the number is divisible by 2.

3 If the sum of the digits is divisible by 3, the number is also.

4 If the last two digits form a number divisible by 4, the number is also.

5 If the last digit is a 5 or a 0, the number is divisible by 5.

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

7 Take the last digit, double it, and subtract it from the rest of the number;
if the answer is divisible by 7 (including 0), then the number is also.

8 If the last three digits form a number divisible by 8,
then so is the whole number.

9 If the sum of the digits is divisible by 9, the number is also.

10 If the number ends in 0, it is divisible by 10.

11 Alternately add and subtract the digits from left to right. (You can think of the first digit as being 'added' to zero.)
If the result (including 0) is divisible by 11, the number is also.
Example: to see whether 365167484 is divisible by 11, start by subtracting:
[0+]3-6+5-1+6-7+4-8+4 = 0; therefore 365167484 is divisible by 11.

12 If the number is divisible by both 3 and 4, it is also divisible by 12.

13 Delete the last digit from the number, and then subtract 9 times the deleted
digit from the remaining number. If what is left is divisible by 13, then so is the original number.

Divisibility Rules

2	ends with 0,2,4,6,8
3	sum of digits are divisible by 3
4	if the last 2 digits are divisible by 4
5	ends with 0,5
6	if divisible by 2 & 3 then divisible by 6
7	check & try
8	if last 3 digits are divisible by 8
9	sum of digits is divisible by 9
10	ends with 0
11	----------
12	divisible by 3 & 4