Pre-Algebra
Divisibility Rules

The following rules can be used to determine whether a number is divisible by other numbers. This is particularly useful in reducing fractions to lowest terms because the rules can be used to test whether both the numerator and denominator are divisible by the same number.

n	**A number is divisible by "*n*" if and only if:**	**Examples**
2	It is even, i.e., if it ends in 0, 2, 4, 6 or 8.	16 (even because it end in a 6) 948 (even because it ends in an 8)
3	The sum of its digits is divisible by 3. You may apply this test multiple times if necessary.	42 (4+2=6) 948 (9+4+8=21, then 2+1=3)
4	The number formed by its last 2 digits is divisible by 4.	332 (32÷4=8) 1,908 (08÷4=2)
5	It ends in a 0 or 5.	905 (ends in a 5) 384,140 (ends in a 0)
6	It is divisible by both 2 and 3.	36 (it is even and 3+6=9) 948 (it is even and 9+4+8=21)
7	Double the last digit and subtract it from the rest of the number. If the result is divisible by 7, so is the original number. You may apply this test multiple times if necessary.	868 (86-[2·8]=70, and 70÷7=10) 2,345 (234-[2·5]=224, then apply again: 22-[2·4]=14, and 14÷7=2)
8	The number formed by its last 3 digits is divisible by 8.	92,104 (104÷8=13) 727,520 (520÷8=65)
9	The sum of its digits is divisible by 9. You may apply this test multiple times if necessary.	2,385 (2+3+8+5=18, then 1+8=9) 89,487 (8+9+4+8+7=36, then 3+6=9)
10	It ends in a 0.	370 (ends in a 0) 345,890 (ends in a 0)
11	The alternating sum and difference of its digits is divisible by 11.	374 (3-7+4=0) 9,482 (9-4+8-2=11)
12	It is divisible by both 3 and 4.	996 (9+9+6=24 and 96÷4=24) 1,344 (1+3+4+4=12 and 44÷4=11)

Note: **0** is divisible by every number except itself.