

## Divisibility Rules

A number is divisible...

by...	If the...	Is/are...	
2 ✓	last digit	Even (0,2,4,6,8)	
3 ✓	sum of the digits	divisible by 3	54321... $5+4+3+2+1=15$ yes.
4 ✓	last two digits OR Tens digit AND ones digit OR Tens digit AND ones digit	divisible by 4 even 0,4, or 8 odd 2 or 6	87616 $16/4=4$ ...yes 67584...yes 87692 ... yes
5 ✓	last digit	0 or 5	
6 ✓	number	divisible by 2&3	
7 ✓	<u>Two</u> times the last digit <u>subtracted from</u> the remaining digits	Divisible by 7	672 ... $67-4=63$ , $63/7=9$ yes 905... $90-10=80$ , $80/7$ ... no 67543... $6754-6=6748$ ... $674-16=658$ ... $65-16=49$ ...yes
8 ✓	last 3 digits OR Hundreds digit AND last 2 digits OR Hundreds digit add 4 to last 2 digits and if sum	divisible by 8 even divisible by 8 odd divisible by 8	e.g. 275-no , 456 - yes e.g. 389... $89+4=93$ no 768... $68+4=72$ yes.
9 ✓	sum of the digits	divisible by 9	54321... $5+4+3+2+1=15$ ... no
10 ✓	last digit	0	
11 ✓	Subtract the last digit from the number formed by the remaining digits Or Alternately subtract then add the digits from left to right	Divisible by 11  Equal to 0 or 11	14641... $1464-1 = 1463$ ... $146-3=143$ ... yes! e.g.14641 ... $1-4+6-4+1=0$
12 ✓	number	divisible by 3&4	
13	<u>4</u> times the last digit is <u>added to</u> the remaining digits  OR Multiply the last digit by 9, then subtract it from the rest of the number	Divisible by 13  Divisible by 13	e.g. 834 $83+(4*4)=99$ , $9+(9*4)=45$ , $4+4*5=24$ ...no e.g. 637 $63+7*4=91$ , $9+1*4=13$ yes. e.g. 834 ( $83-4*9=47$ ... no) 637 ( $63-7*9=0$ ... yes!)
14	number	Divisible by 2&7	
17	<u>Five</u> times the last digit <u>subtracted from</u> the remaining digits	Divisible by 17	6547 $654-35=619$ $61-45=16$ no
19	<u>Two</u> times the last digit <u>added to</u> the remaining digits	Divisible by 19	6547 $654+14=668$ $66+16=82$ $8+4=12$ ... no
23	<u>Seven</u> times the last digit <u>added to</u> the remaining digits	Divisible by 23	2783 $278+21=299$ $29+63=92$ ... $9+14=23$ yes