



# DIVISIBILITY RULES 1-10 CHART

If a number is **divisible** by another number it means that it divides into the other number with no remainder.

14 is **divisible** by 2 because  $14 \div 2 = 7$ . 23 is **not divisible** by 4 because  $23 \div 4 = 5.75$ .

DIVISIBLE BY 1	DIVISIBLE BY 2
All <b>integers</b> are divisible by 1.	All <b>even</b> integers are divisible by 2. A number is even if the last digit is 0, 2, 4, 6, or 8.
147 is <b>divisible</b> by 1 because it is a whole number. 2059 is <b>divisible</b> by 1 because it is a whole number. 12.8 is <b>not divisible</b> by 1 because it is not an integer.	318 is <b>divisible</b> by 2 because the last digit is 8. 507 is <b>not divisible</b> by 2 because it ends in a 7. 13 is <b>not divisible</b> by 2 because it ends in a 3.
DIVISIBLE BY 3	DIVISIBLE BY 4
All <b>integers</b> where the total of the digits is divisible by 3 (in the 3 times table). This rule can be repeated again if needed.	All <b>even</b> integers whose last two digits are divisible by 4. <i>A quick way to test this is to halve the last two digits twice and see if you get a whole number.</i>
714 is <b>divisible</b> by 3 because $7+1+4=12$ and $12 \div 3=4$ (divisible). 3515 is <b>not divisible</b> by 3 because $3+5+1+5=14$ . Repeat the rule: $1+4=5$ . Not divisible by 3.	1328 is <b>divisible</b> by 4 because $28 \div 4=7$ . 793 is <b>not divisible</b> by 4 because it is odd. 870 is <b>not divisible</b> by 4 because half of 70=35 and half of 35=17 1/2
DIVISIBLE BY 5	DIVISIBLE BY 6
All <b>integers</b> whose last digit is a 0 or 5.	All <b>even</b> integers which are divisible by 3 (see Divisible by 3 test).
4185 is <b>divisible</b> by 5 because the last digit is 5. 319 is <b>not divisible</b> by 5 because the last digit is 9.	432 is <b>divisible</b> by 3 because it is even and the total of the digits is $4+3+2=9$ and $9 \div 3=3$ (divisible). 158 is <b>not divisible</b> by 3 because $1+5+8=14$ and $14 \div 3=4 \frac{2}{3}$ (not divisible).
DIVISIBLE BY 7	DIVISIBLE BY 8
Double the last digit and subtract the result from the number made by the other digits and see if it is divisible by 7. Repeat again if needed.	All <b>even</b> integers where the last 3 digits are divisible by 8. <i>A quick way to test this is to halve the last 3 digits three times and see if you get a whole number.</i>
1057 is <b>divisible</b> by 7 because $105-2 \times 7=91$ . $91 \div 7=13$ (divisible). 2786 is <b>divisible</b> by 7 because $278-2 \times 6=266$ . Repeat: $26-2 \times 6=14$ . $14 \div 7=2$ (divisible). 841 is <b>not divisible</b> by 7 because $84-2 \times 1=82$ . $82 \div 7=11 \frac{5}{7}$ (not divisible).	5312 is <b>divisible</b> by 8 because $312 \div 8=39$ . 1207 is <b>not divisible</b> by 8 because it is odd. 4284 is <b>not divisible</b> by 8 because half of 284=142 and half of 142 is 71 and half of 71 is 35 1/2 (not an integer)
DIVISIBLE BY 9	DIVISIBLE BY 10
All <b>integers</b> where the total of the digits is divisible by 9 (in the 9 times tables). This rule can be repeated again if needed.	All <b>integers</b> whose last digit is 0.
2745 is <b>divisible</b> by 9 because $2+7+4+5=18$ . Repeat the rule: $1+8=9$ . Yes - Divisible by 9. 702 is <b>divisible</b> by 9 because $7+0+2=9$ which is divisible by 9. 1024 is <b>not divisible</b> by 9 because $1+0+2+4=7$ which is not divisible by 9.	5120 is <b>divisible</b> by 10 because the last digit is 0. 8039 is <b>not divisible</b> by 10 because the last digit is 9. 2815 is <b>not divisible</b> by 10 because the last digit is 5.

- An **integer** is a whole number which can be positive or negative.