The Bonus Divisibility Rules

Here are a bunch of additional divisibility rules that can come in handy as well. These are divided into two categories:

- *Composite Numbers*
- *Prime Numbers*

Divisibility Rules – 16 Composite Numbers

Number	Rule	Example
8	Last 3 digits form a number divisible by 8.	2520 → 520 ÷ 8 ✓
9	Sum of digits divisible by 9.	2520 → 2 + 5 + 2 + 0 = 9 ✓
12	Divisible by both 3 and 4.	2520 → ÷ 3 & ÷ 4 ✓
14	Divisible by 2 and 7.	2520 → ÷ 2 & ÷ 7 ✓
15	Divisible by 3 and 5.	2520 → ÷ 3 & ÷ 5 ✓
16	Last 4 digits divisible by 16.	2520 → ÷ 16 ✗
18	Divisible by 2 and 9.	2520 → ÷ 2 & ÷ 9 ✓
20	Last 2 digits are divisible by 20 (00, 20, 40, 60, 80).	2520 → ends in 40 ✓
21	Divisible by 3 and 7.	2520 → ÷ 3 & ÷ 7 ✓
22	Divisible by 2 and 11.	2520 → ÷ 2 & ÷ 11 ✗
24	Divisible by 3 and 8.	2520 → ÷ 3 & ÷ 8 ✓
25	Ends in 00, 25, 50, or 75.	475 → ends in 75 ✓
26	Divisible by 2 and 13.	2520 → ÷ 2 & ÷ 13 ✓
27	Sum of digits, repeated if needed, divisible by 27.	2520 → 2 + 5 + 2 + 0 = 9 ✗
28	Divisible by 4 and 7.	2520 → ÷ 4 & ÷ 7 ✓
30	Divisible by 2, 3, and 5.	2520 → ÷ 2, ÷ 3, ÷ 5 ✓

Divisibility Rules – 6 Prime Numbers

The divisibility rule of these numbers can be generalised as follows:

R ± a × L

The Bonus Divisibility Rules

Where:

- *R = rest of the number (excluding last digit)*
- *L = last digit*
- *a = a multiplier specific to each prime*

Prime	Rule (R ± a × L)	Example
13	R − 9L or R + 4L	1286 → 128 − 9×6 = 74 ✗
17	R − 5L	221 → 22 − 5×1 = 17 ✓
19	R ± 2L	1133 → 113 + 6 = 119 ✗
23	R ± 7L	276 → 27 + 42 = 69 ✓
29	R + 3Lor R − 2L	7203 → 720 − 6 = **714** ? **714** → 71 – 8 = 63 ✗
31	R − 3L	186 → 18 − 18 = 0 ✓