

Divisibility Rules

To see if a number can be evenly divided by:

- 2- It must be even (ending in 0, 2, 4, 6, or 8).
- 3- Add the digits and divide the sum by 3. Examples: 234, $2+3+4=9$, yes, 234 is divisible by 3 101, $1+0+1=2$ no, 101 is not divisible by 3
- 4- Take the last 2 digits, but don't add them. If the number formed by the last 2 digits is divisible by 4, then the whole number is. All numbers divisible by 4 will also be even. Examples: 1134, $34/4$? No, 1134 is not divisible by 4 1128, $28/4$? Yes, 1128 is divisible by 4
- 5- The number must end in 0 or 5
- 6- The number must be divisible by 2 and 3
- 7- no short cut, just try dividing by 7 and see if it works
- 8- no short cut, just try dividing by 8 and see if it works
- 9- (Similar to the rule for 3) Add the digits and divide the sum by 9. Examples: 981, $9+8+1=18$, $18/9$?, yes, 981 is divisible by 9 111, $1+1+1=3$, $3/9$?, no 111 is not divisible by 9
- 10- It must end with a 0.
- 25- The last 2 digits must be 00, 25, 50, or 75
- 100- It must end with 00

If you know a number is not prime, but you haven't found a factor from 2 to 15, try dividing by prime numbers: 17, 19, 23, 29, 31, 37…

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